

ONLY  
58p!

# COMPUTER EXPRESS

First news, best buys - every week • Issue 33 • 24 June 1989

# DON'T!



## Express repair guide saves your sanity

• What to do • Where to go • What it costs - page 8

**R.I.P. ST**

**LONG LIVE THE STE**  
page 2

**WIN!**

- An EPSON Printer
- PC Virus busters page 24

**A WALK ON THE DARKSIDE**

Freescape arrives on 16-bit

**SAVE A MASSIVE**

**£10**

EXPRESS VOUCHERS page 43

ALSO INSIDE EXPRESS

- Be a C64 expert
- Data by satellite
- Classified bargains
- Tech Tips



# BLAST OFF!

## Atari's amazing enhanced ST to smash through at £399

Atari is planning to phase out the current 520 STF – and replace it with a remarkable enhanced model later this year with a specification better than that of its rival the Commodore Amiga.

The new improved ST will still be priced at £399 and should be bundled with the current line up of 20 top games as well as a music package. It will be called the Atari STE (E for enhanced). Atari is refusing to talk about its future plans but it is understood that the STE will replace the current configuration later this year and with the minimum of fuss.

The Atari STE will boast an Amiga-beating graphics configuration of 4,096 colours of which 256 can be displayed at once. The current ST has only 512 colours displaying 16 at a time. And whilst the Amiga also has 4096 colours it can only display a standard 32 at once.

The ST will be brought up to the Amiga's high sound standards with four channel stereo with frequency and amplitude modulator. ST buyers can also look forward to extremely rapid multi directional hardware scrolling which will free valuable



processor time, thus speeding up the machine's performance.

Otherwise, the STE will look much the same as the present machine and will still run at 8Mhz with a 68000 processor.

It is understood that developers' models are on their way to software houses at the moment. Programmers will be writing normal ST code on the top side of ST disks with additional graphics and sound on the bottom half. Software will therefore be completely compatible with both STs but will be able to exploit the new computer's superior capabilities.

An Atari spokesman confined himself to saying: "There are always plans to upgrade the quality of our machines but we have no plans to make any announcements as yet. You can speculate as much as you like."

All the same, a high ranking Atari official confirmed that the STE will be in circulation by the end of this year providing everything goes to plan.

Commodore will not allow Atari to outwit it with this thrusting development. It too is said to be putting together a mysterious new deal for potential Amiga owners.

You can catch a full run-down on Atari's multifarious plans in issue 1 of our sister paper *ST Format* on sale July 20th. ■

## Sinclair's speedy chip

**Barrier-breaking brainbox Sir Clive Sinclair is close to announcing a new chip capable of incredible speeds.**

The chip, designed by scientists at Sinclair Research, is based on RISC technology and is capable of a blistering 250 MIPS (millions of instructions per second). Compare this to Acorn's speedy Archimedes which runs a RISC chip but can only manage four MIPS.

Sir Clive is refusing to talk about the details of his new chip, dubbed the PCG-1 processor. It is thought likely that it will be used in low-cost graphics workstations.

First glimpses of his plans

were outlined in TV documentary *Horizon* last week. That program set out to look at Sinclair's work over the past twenty years. ■

• Taking RISCs in new areas: Sir Clive Sinclair to announce new chip



• 1ST among equals: But will the STE beat the Atari ST, and everything else?

## A load of balls

Computer tennis has come an awful long way since the days of *Pong*.

The latest sensation is called *Passing Shot* and will be coming to you via Imageworks. Licensed from Sega in Japan, the coin-op offers impressive graphics, lots of options and original gameplay. Tennis fans can play matches all over the world on grass or clay and can pull off all the slices, lobs and spins they fancy

Imageworks programmers are currently beaver away on conversions which will arrive in the autumn on most major formats. ■

• The latest racket: I say, anyone for tennis?





# HOME SHOPPING BY COMPUTER ARRIVES

A scheme to provide three million British homes with free computer terminals for home shopping is nearing reality.

A powerful consortium of 20 big name high street stores, mail order outfits, banks and bookies have backed the project which could be home computing's biggest step forward yet.

The Keyline project plans to install 500,000 of the computers over an eighteen month period starting next year. Anyone who applies for the Keyline terminal will simply have to link it up to their telephone line.

They will then be able to shop from home and will be able to choose from the likes of Littlewoods, Asda, Gateway and Mothercare. They will also be able to indulge in home banking through NatWest and Midland. Punters will also be able to bet from home through giants Ladbroke and William Hill.

Any products ordered will be delivered



● Keyline beeline: Will British buyers be convinced?

to their home. People wanting to join in will only have to pay a £35 deposit for the simple terminal. The companies involved will pay 15p to 25p every time someone uses their service.

Keyline has been masterminded by computing pioneer Christopher Curry who founded Acorn and designed the

BBC micro. He has spent the past seven years planning the "next revolution in home computing".

The machine itself only costs £40 to manufacture. It has a small screen and runs on batteries. Orders can be typed in normal English.

The companies backing the scheme are extremely interested because it puts their products in people's homes. Purchases can be made on the spot and without bother.

Curry reckons his idea is "a 95 per cent certainty". He told Express: "It's a complete myth that people enjoy their standard shopping. I think it's far fetched to suggest that most shopping will be done like this in the future though a lot of people will do all their regular shopping on computers."

An advertising campaign will kick off later this year with people being offered the system on a "first come first serve basis". ■

## Opus and the clutter basher

Computer owners are generally a messy lot, leaving important manuals and software all over the place.

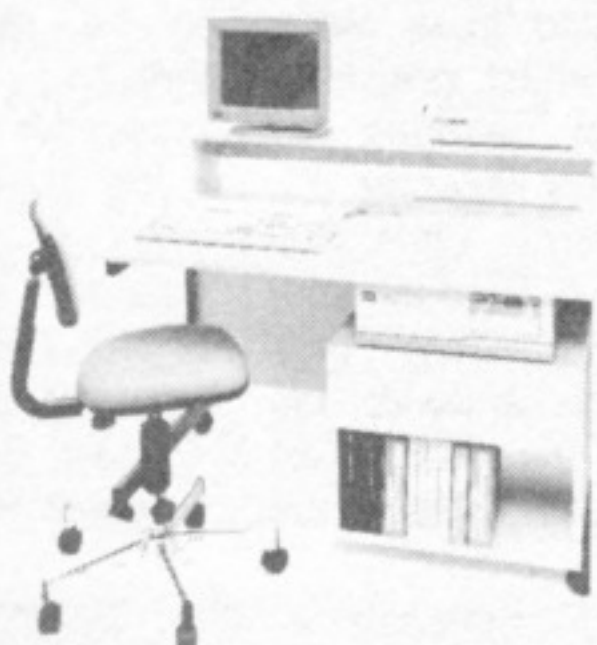
But prospective PC buyers who like to keep everything nice and tidy might be interested in a new offer from Opus.

The British firm is giving away a "smart" desk and swivel chair with every one of its 286 PCs.

The "System Solver" desk is designed to carry a computer and all the bits and

bobs that go with it. Inside is a built in lockable disk box and tidy tray. Opus reckons buyers will appreciate being able to keep everything on a super neat desktop. The 286 costs £1199 with the freebie furniture worth £200.

A most sincere Opus spokesman said: "I wish I'd been given a desk with my PC. For the moment it's on a tatty wooden surface with manuals all over the place." ■



● Cleaning up? Opus' System Solver

## Micro will beat Big Brother - Reagan

Former US president Ronald Reagan last week predicted that technology and the microchip will bring down big brother states.

Speaking in London's Guildhall, he said that advances in communications technology would be the greatest weapon against repressive "big brother" governments.

"The Goliath of totalitarian control will rapidly be brought down by the David of the microchip," he said. "The biggest of big brothers is increasingly helpless against communications technology. Information is the oxygen of the new age.



● Ich bin ein Programmer: Reagan calls for freedom through technology

"All this technology has breathtaking consequences for freedom."

Reagan went on to say that the Iron Curtain is "like lace" against the flow of information through technological means. He spoke of totalitarian states fearing freedom of information most of all, but said that they are powerless against even small computers.

Reagan also called for more computers, photocopiers and fax machines to be sent to the Soviet Union when ordinary people are allowed access to them. There is currently a limit on how much technical knowhow can be exported to communist countries. ■

## Must try harder! Teachers still don't understand computers

Despite the increasingly important role of computers in schools, our teachers are still not being trained properly in new technology, says a new report.

A study set up by education secretary Kenneth Baker has found inadequate resources in Britain's teacher training colleges. Janet Trotter, head of the working group involved - and a principal herself - said: "We were greatly disturbed by the patchiness evident in all dimensions of information technology provision."

She pointed out that the capability of staff to handle computers leaves a lot to be desired.

Trotter has urged Baker to look carefully at the situation and to pour some resources into the colleges. One idea is for the teacher training centres to forge links with industry involved in information technology.

The Government has already acceded to the request that all teachers should undergo computer training. ■

## CONTENTS

### FEATURES

<b>GET A FIX</b>	<b>8</b>
How to save your micro from certain death...	
<b>BOOKS</b>	<b>14</b>
...and two books that could help you do it	
<b>LIVE - BY SATELLITE!</b>	<b>16</b>
Dishy data	
<b>AMAZE YOUR FRIENDS</b>	<b>18</b>
Expertise on the C64	
<b>A to Z</b>	<b>21</b>
M for Micro	
<b>WIN A PRINTER!</b>	<b>28</b>
And 25 PC Virus Busters in the Express competition	

### REGULARS

<b>COMMENT</b>	<b>4</b>
<b>LETTERS</b>	<b>12</b>
<b>EXPRESS SALES</b>	<b>34</b>
Pick up some great bargains here	
<b>JOBS</b>	<b>35</b>
The best in computer vacancies	
<b>TECH TIPS</b>	<b>36, 37</b>
<b>READERS' CLASSIFIED</b>	<b>45</b>
<b>GAMES</b>	<b>39</b>
<i>Dark Side, Starray, Personal Nightmare</i>	
<b>UPDATES</b>	<b>40</b>
<i>Silkworm, Forgotten Worlds, Microprose Soccer, Battlechess, Vindicators</i>	
<b>PREVIEWS</b>	<b>50</b>
<i>Castle Warrior, Battlechess, American Civil War, Paladin, Barbarian II</i>	
<b>VOUCHERS</b>	<b>43, 44</b>
Buy Express for 58p and save £10!	
<b>BACK PAGE</b>	<b>46</b>

### YOUR MACHINE

<b>ST</b>	<b>32</b>
<b>Amiga</b>	<b>33</b>
<b>PC</b>	<b>34</b>
<b>CPC</b>	<b>35</b>
<b>Spectrum</b>	<b>36</b>
<b>Commodore 64</b>	<b>37</b>
<b>PCW, QL</b>	<b>38</b>
<b>BBC, MSX</b>	<b>39</b>
<b>Archimedes</b>	<b>41</b>





**COMMENT**

**Talking shop?**

The idea of shopping from home has been around many years, but is yet another sci-fi idea that is apparently about to become a reality: a supermarket in your front room.

For those who find trudging to the supermarket difficult or impossible – the elderly and disabled, single parent families – it will be a boon, though this raises the question of computer literacy. For many elderly the burden of ordering the weekly groceries will fall on the home help. In any case it must require no familiarity with computers or machines to take advantage of the system: the level of difficulty of a cashpoint is as far as it can go.

Questions that must be answered are: what sort of passwords can a user put on a system – to stop young Luke and Sophie ordering cigarettes and cases of lager? What will the supermarkets charge to deliver your weekly shopping? Will details of your purchases be available for inspection by companies putting together mail order lists? The companies involved in the scheme are too responsible and have too much to lose to avoid addressing those problems.

One thing the system certainly will not do is end shopping as we know it. It sounds a dream not to have to trudge down to the supermarket every week to get essentially the same arm-stretching bags of groceries, and the cost of the system would certainly work out cheaper than the petrol or bus fares.

Town centres won't be deserted. They'll be fuller than ever, as shoppers have more time to browse round books, records, clothes, computers and other leisure goods.

As ever, new technology will not particularly save time or money; it will, however, take out most of the drudgery, and make life just that little bit less of a hassle.

EDITOR Rob Ainsley  
NEWS EDITOR Colin Campbell  
FEATURES EDITOR Andy Storer  
REVIEWS EDITOR Rik Haynes  
TECHNICAL EDITOR Jerry Glenwright  
ART EDITOR Angela Neal  
ART ASSISTANT Harriet Athay  
PRODUCTION EDITOR Rod Lawton  
ADVERTISEMENT MANAGER Mark Salmon  
AD EXECUTIVES Sarah King, David Lilley  
AD TYPESETTING Terry Turner  
PUBLISHER Greg Ingham

© Future Publishing Ltd

4 QUEEN ST, BATH, BA1 1EJ

TEL: 0225 446034 • FAX: 0225 446019 Printed by Redwood Web Offset, Trowbridge, Wilts Distributed by Comag, West Drayton, Middx

● **Snippets**

● *Erstwhile Atari technical whizz Les Player is to appear at the Atari Computer Show this weekend to answer all your Atarish questions. For every one he and his panel of pals get wrong some money goes to charity. Details: The West Hall, Ally Pally on June 23rd.*

● *On the subject of computer shows it comes to our attention that the "first Shrewsbury show is heading for a sell out success". Apparently some 30 exhibitors from Wales and the Midlands will be showing up at the Music Hall from September 1st to 2nd. More on 0743 231172.*

● *Yet another PC286 has dipped in price. This time it's Zenith's Z286/LP which goes down from £1995 to £1795. Buyers will also be treated to a choice of VGA compatible monitors.*

● *Scuttling out from Pink Software is a brand new mouse called Turbomouse. It costs £49. And, er, that's it.*

● *Recent reports of hacking in the City where defrauders are let off in return for spilling the beans on how they did it, could be costing companies up to 2.5bn a year.*

● *Having problems with your ST? Go along to the Atari Show this Friday and meet Les Player, Atari's former technical boss. He'll be leading a panel of tech-tippers.*

**NEW DEAL FOR A3000 BUYERS**

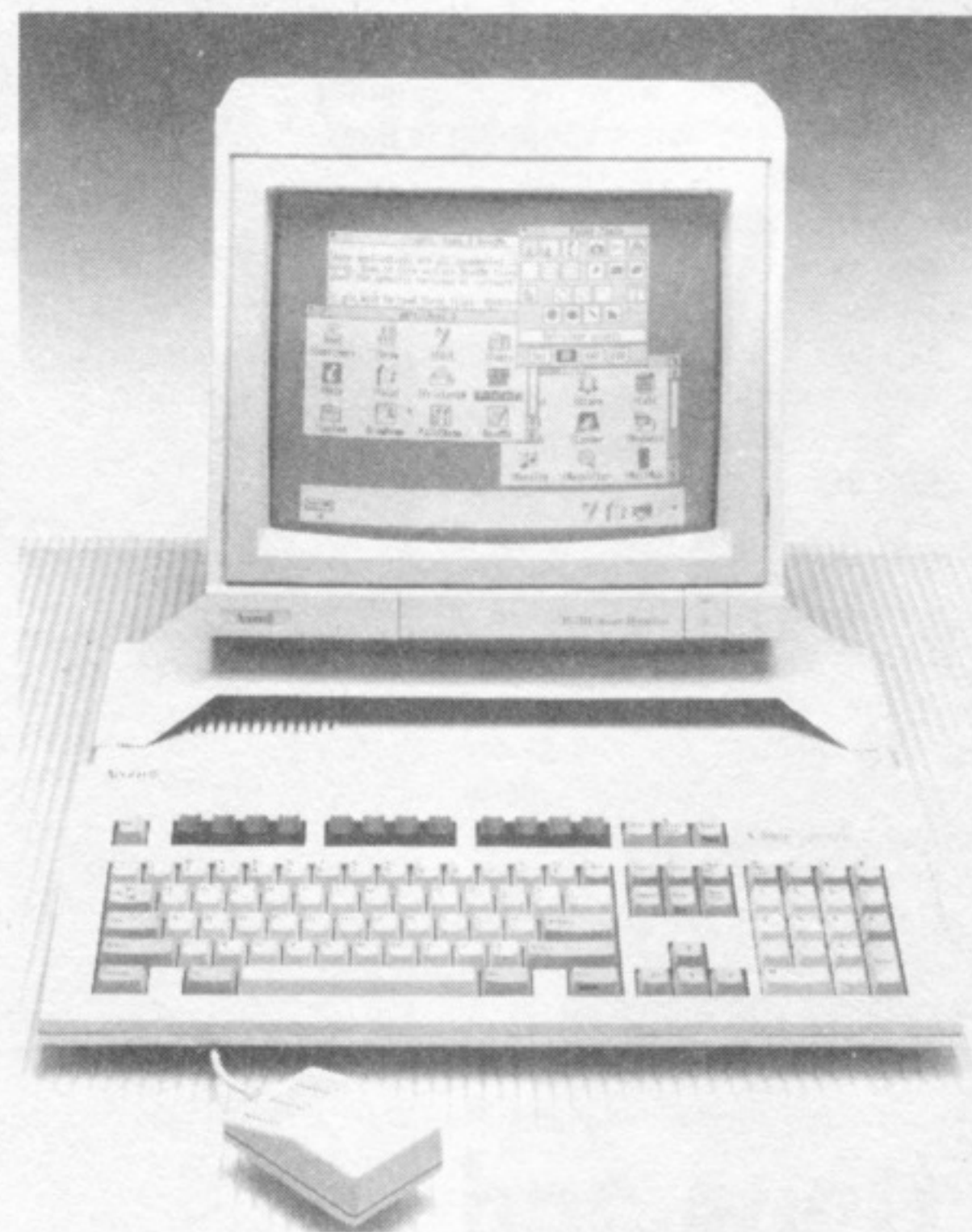
Computer lovers salivating over Acorn's new A3000 are to be given the chance to buy the machine at 0% finance.

The machine appears to have caught everyone's imagination but is out of many people's reach pricewise. However, visitors to next month's BBC Acorn User Show will be able to pick the machine up and take it home for a mere £62.50 downpayment.

Buyers will then have to pay the rest off once a month over the next year. The BBC A3000 costs £649 plus VAT.

"It's a great deal for people coming to the show and seeing this machine for the first time. They can have a good look at it and take it home straight away," offered a show spokesman. The Acorn stand will be linked up to Mercantile Credit's database to make sure potential purchasers are kosher.

The show runs from 21st to 23rd July at Alexandra Palace in London. Acorn must reckon on shifting big numbers of its new baby with some 18,000



● **Theory of Archimedes: Buy now, pay later**

visitors expected. Most of those will be wanting to get their first glimpse of the new A3000.

Express readers will be able to win an Archimedes A3000 and monitor in the competition in issue 35. ■

**Back to the future**

A display of computing is to be set up at the Bethnal Green Museum of Childhood.

The display hopes to cover as many aspects of home and education computing as possible. The museum, a branch of the Victoria and Albert, has one of the world's largest collections of children's artifacts and toys, but now they recognise the need to cover computers.

Computer company Network is currently on the look out for as many computerish bits and pieces as possible for kids to look at. The Computer dungeon workshop will be run at the museum every afternoon throughout August. ■



● **Wide eyed: Kids at the Bethnal Green museum**

**Coders in car crash**

Three top programmers were involved in a nasty car crash whilst returning home from working at Code Masters recently.

Peter Williams, Chris Graham and Gavin Raeburn were driving home from their offices in Southam when the car spun off the road and hit a hedge. Graham was on the

critical list but is understood to be recovering quickly. Williams and Raeburn received lesser injuries.

The three, all under 22 years of age, are highly regarded at Code Masters and have worked on such projects as Rock Star, Four Soccer Sims and Super Stuntman. ■

**Sounds good**

Sound-starved STOSers will soon have access to all the sampled noises they require thanks to publisher Mandarin.

A whole library of sampled sounds will be available on Public Domain disks including the revving up of a car, a drilling machine in full flow and sundry other bleeps, boings, booms and bangs. Now the thousands of budding games designers can graft in all the sonic effects they desire. Further details from Mandarin on 0625 878888. ■





# DISABLED INTERFACE SPREADS ITS MAGIC

A remarkable gadget which enables disabled people to interface with an Apple Mac is to be converted to the PC and Atari ST.

Merseyside based Bit 32 wants to bring the innovative gadget over to more mainstream machines. It enables tetraplegics to utilise a computer in the same way as able-bodied users by simulating the action of a mouse.

Essentially it works by blowing and sucking and moving the head around in a special "box of tricks". The impulses these movements generate are transmitted to a special mouse. Typing is done through an on screen pointer controlled keyboard.

Much of the gadgetry works on the Doppler effect. That describes the changes in pitch made by, for instance,

an ambulance siren as it passes you.

Three microphones inside the headset pick up all the user's head movements. The signal is then interpreted and the mouse goes into action.

Bit 32 hopes that hundreds more tetraplegics will be able to lead professionally satisfying lives with the device. Among the disabled unemployment now stands at 76 per cent, with most the others engaged in low skilled jobs.

"Using this people can do absolute anything you or I can do on a computer. it's not terrifically difficult to use either," said Bit 32's Roy Stringer. He added that the £32,000 needed is a good investment for local councils and companies since it turns a disabled person into a skilled computer user. ■



• Taking the Bit between the teeth: Good news for disabled computer users

## Virus wreaks poll tax chaos

Political hackers claim to have placed a virus in two Scottish computer systems in an attempt to tamper with Poll Tax records.

The specially devised virus is a self-producing program which systematically destroys genuine poll tax records. It takes out a name every fifteen minutes and replaces it with the name of a child or a dead person.

The virus was planted in Lothian and Tayside regional councils last March, and according to the hackers, has been destroying names every quarter of an hour since.

However, the councils concerned insist they have checked all their computer systems and have found no such virus.

The hackers reckon any attempts to "disarm" the virus

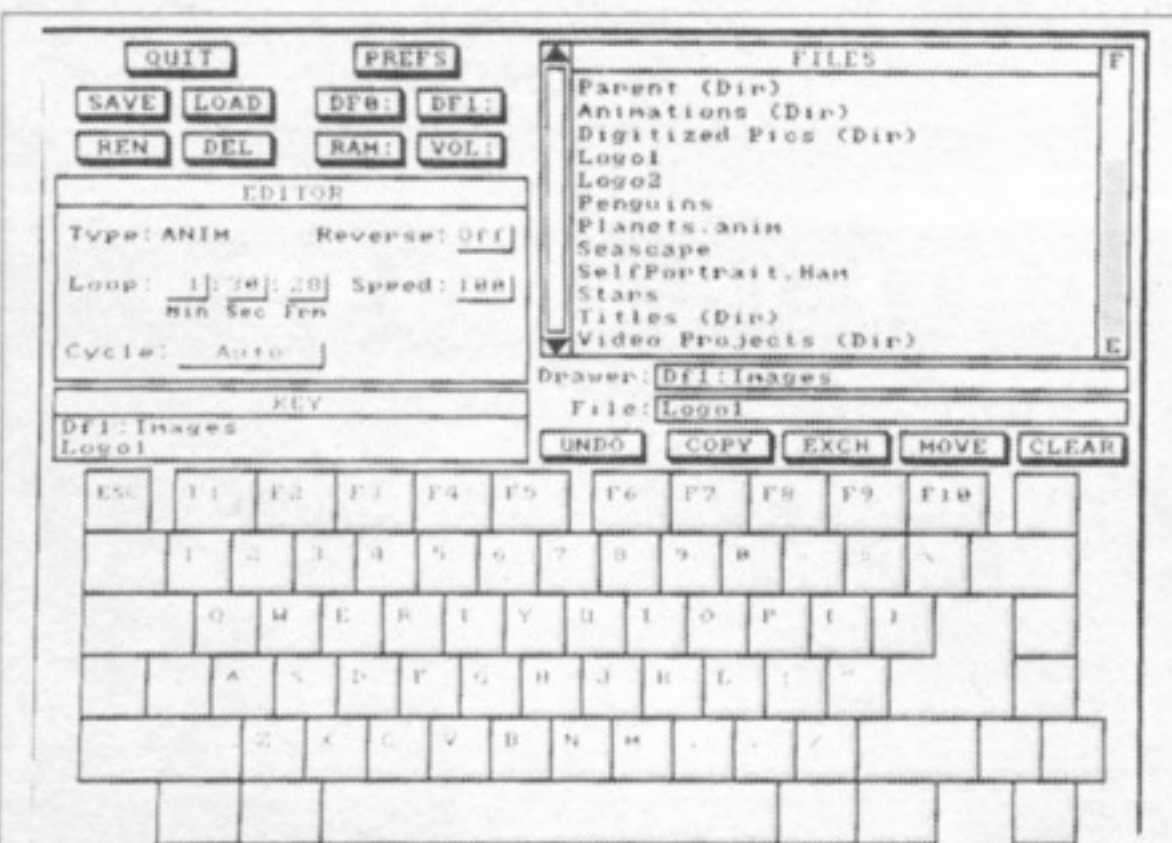
will result in the entire system breaking down.

The poll tax is extremely unpopular north of the border. Lothian councillor Keith Simpson who is campaigning against it said: "This is not the virus, it's the antibody. The poll tax itself is the virus. We wish this computer infection well in its endeavours and hope that it has a long and productive existence." ■

## Assembler Line

CRL is set to launch a new Assembler—a program which converts written instructions into a form directly understandable by the computer.—for the ST later this month called Instinct.

It costs £49.95, and is a full specification Assembler, Disassembler and De-Bugger with a suite of disk utilities. Details from CRL on 01 533 2918.



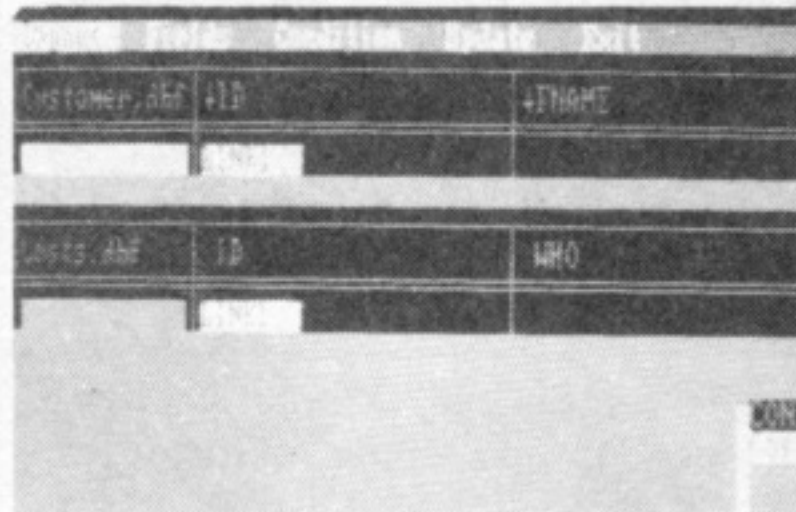
Elan Design has launched a nifty professional presentation package for the Amiga. Costing \$59, Elan Performer allows you to access and display graphics and animations from various sources — without all the hassle normally involved. For instance, you would be able to mix and match animations from completely different paint packages. Unfortunately, anyone interested will have to call California on 0101 415 621 8673. Let's hope a UK company ships the program over.

## dBase freebie...

Registered dBase IV users are to be offered a free upgrade this autumn.

Publisher Ashton-Tate is to launch version 1.1 which it claims, will include "significant enhancements" on previous versions. The well known PC database package normally costs £595. As yet no price has been announced for the upgraded version.

There are currently tens of thousands of dBase users in the UK. "We're giving the



• dBase IV: Free to upgrade

upgrade free of charge so that people can buy dBase IV and develop applications with full confidence that they will be able to upgrade to the next release," said Ashton-Tate's UK boss Paul Sloane. More info on 0628 33123. ■

## TOP 20 Full Price GAMES

- 1 Robocop** OCEAN  
Spectrum, C64, CPC, ST, Amiga, Others
- 2 Microprose Soccer** MICROPROSE  
Spectrum, C64, CPC, ST, Amiga
- 3 Dragon Ninja** OCEAN  
Spectrum, C64, CPC, ST, Amiga
- 4 Forgotten Worlds** US GOLD  
Spectrum, C64, CPC, ST, Amiga
- 5 Emlyn Hughes** AUDIOGENIC  
Spectrum, C64, CPC
- 6 Running Man** GRAND SLAM  
Spectrum, C64, CPC, ST, Amiga
- 7 Run the Gauntlet** OCEAN  
Spectrum, C64, CPC, ST, Amiga
- 8 Populous** ELECTRONIC ARTS  
ST, Amiga
- 9 Silkworm** VIRGIN  
Spec, C64, CPC, ST, Amiga
- 10 Kick Off** ANCO  
C64, ST, Amiga
- 11 Dalglish's Soccer** COGNITO  
Spectrum, ST, Amiga
- 12 In Crowd** OCEAN  
Spectrum, C64, CPC
- 13 Football Manager 2** ADDICTIVE  
Spectrum, CPC, ST, Amiga, Others
- 14 Crazy Cars II** TITUS  
Spectrum, CPC, ST, Amiga
- 15 3D Pool** FIREBIRD  
Spec, C64, CPC, ST
- 16 Arcade Muscle** US GOLD  
Spectrum, C64, CPC
- 17 Operation Wolf** OCEAN  
Spectrum, C64, CPC, ST, Amiga
- 18 Renegade 3** IMAGINE  
Spectrum, C64, CPC
- 19 Middle Earth** MELBOURNE HOUSE  
Spec, C64, CPC, ST, Amiga, Others
- 20 FM Expansion Kit** ADDICTIVE  
Spectrum, C64, CPC, ST, Amiga, Others

## TOP TEN Budget GAMES

- 1 Enduro Racer** HIT SQUAD  
Spec, C64, CPC, ST, Others
- 2 Fast Food** CODE MASTERS  
Spectrum, CPC
- 3 Road Runner** KODX  
Spectrum, C64, CPC, ST
- 4 1942** ENCORE  
Spectrum, C64, CPC, Others
- 5 Arcade Flight Sim** CODE MASTERS  
Spectrum, C64, CPC
- 6 Shanghai Warriors** PLAYERS  
Spec, C64, CPC
- 7 Daley Thomps Dec** HIT SQUAD  
Spec, C64, CPC, Others
- 8 Treasure Island** CODE MASTERS  
Spec, C64, CPC
- 9 Turbo Esprit** ENCORE  
Spec, C64, CPC
- 10 Rambo** HIT SQUAD  
Spectrum, C64, CPC

RE re-entry • NE new entry • Last week's positions Δ  
Compiled by Gallup  
The charts shown are based on the Open Market, that is retailers who stock a broad range of products. All charts shown are copyright of Gallup.



## Atari's final show?

A total of fifty new products are to be launched at the Atari Computer Show at the Alexandra Palace on Friday, June 23rd. Possibly the most revolutionary, and certainly the most controversial, will be HiSoft's Spectre 128 - the £199 Mac emulator reviewed in Express issue 24. Also worth a look will be Bath Computer Shack's Tweety Board - a £50 add-on which pro-

vides the ST with stereo sound.. Signa Publishing will also be featuring heavily - their Imagic movie show creator might interface quite nicely with Digita's £199 Multigen genlock device. Along with seminars and workshops for DTP, programming and music, the event might be the last. It's likely to be replaced by the new all-formats Computer Shopper Show this Xmas. ■

## Chain store masterplan

Fledgling independent software retail chain Software Plus is coming to a town near you in the near future.

The 18 strong chain from the South East is expanding into the West country in the next few months with the opening of six new stores in such places as Weston-Super-Mare

and Bristol. Busy Software Plus boss Nick Yates expects to have 30 shops up and running before the peak Christmas period.

Each outlet sells games software and peripherals for all the major micros. His efforts were rewarded with the accolade 'Retailer of the Year 1988' by trade mag CTW. ■

## Magnetic attraction

Award-winning adventure-writing company Magnetic Scrolls is currently working on a new adventure game which it predicts will take the genre a step further.

Mag Scrolls boss Anita Sinclair

told Express that "the new project will be just as big a leap in adventure gaming as The Pawn was back in 1985".

The as yet unnamed project should be finished sometime in the Autumn. ■

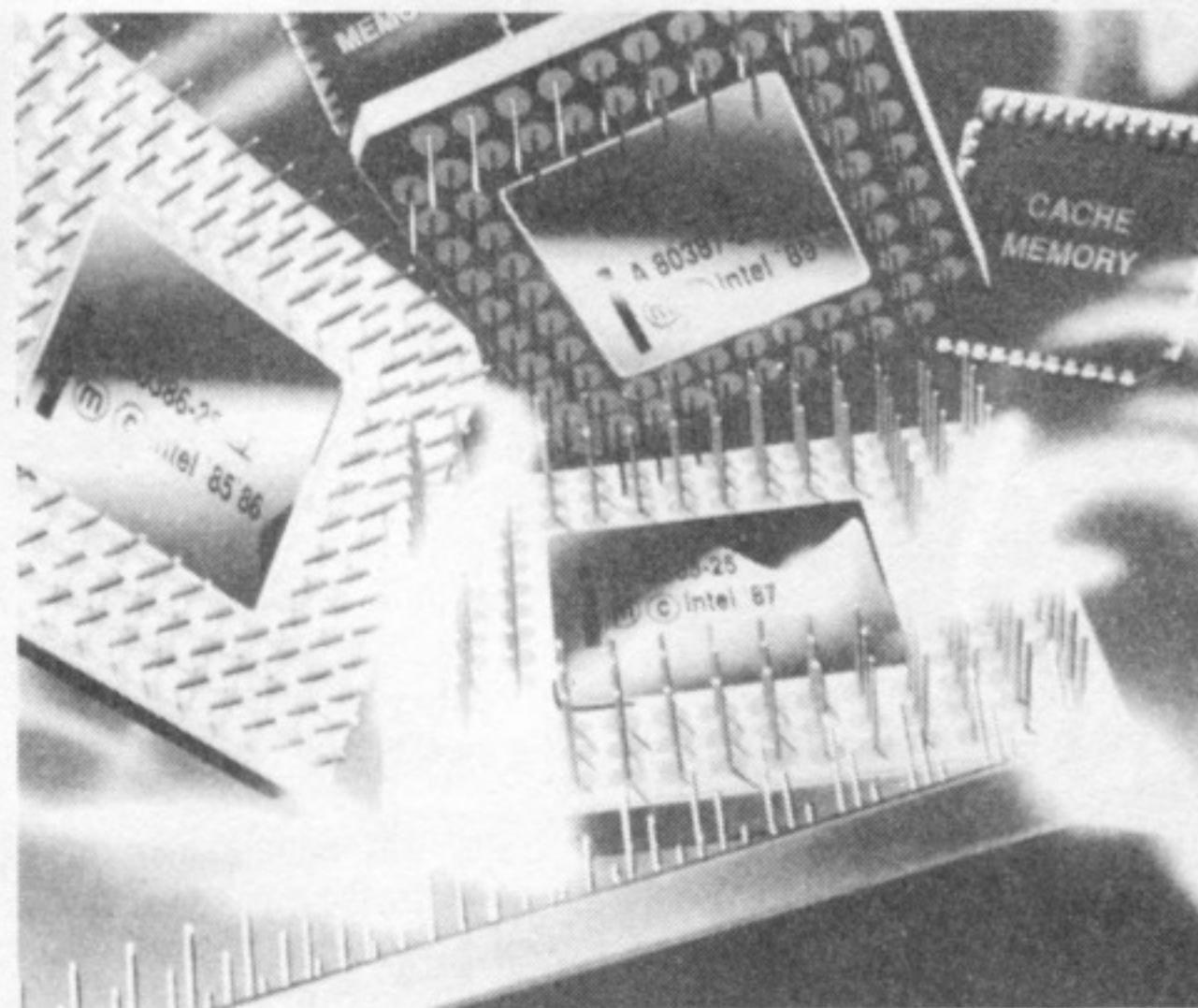
# APRICOT'S 486 WORLD FIRST

British hardware manufacturer Apricot have produced the world's first 486 PC, the VXFT Server.

Based on Intel's 80486 chip, the tower system will be available in September, with desktop versions due early next year. With on-board RAM of up to 16Mb, the system can address a hard disk of 1047Mb and up to five additional drives allowing a maximum storage capacity of 5Gb (5,000,000K). Backup is provided by DAT ('digital audio tape') tape capable of holding 1.2 Mb.

Appealing to Networking and Unix users, the Server currently runs at 25mhz, but Intel have promised parts to run at up to 50Mhz leaving the current top end standard of the 33Mhz 386 standing.

The new 486 machine has its own floating point maths unit built in, and for price perfor-



• Intel's 486: Taking computing into the next decade

mance compares very well with its workstation rivals.

The top-end 1Gb disk, 16Mb RAM supporting up to 64 power users, will rush you £22,000 -

still some £14,000 cheaper than a similar 386-based Compaq configuration.

For those interested Apricot are on 021 456 1234. ■



**YOU GET MORE FOR YOUR MONEY  
THAN JUST OUR NAME**

**MICRO MEDIA  
SEAL!**

Micromedia are the **ONLY** Company committed to customer support for the fabulous PC Engine games console.

1. For a start we are an established company who will be around to look after you in a year's time, and not "gone with the wind" (and your money) - Micromedia are suppliers to the Computer Shops. Chances are, you'll find us the only Company supplying them with software for our customers too.
2. Micromedia's own company "Engine-eering" repairs only our machines - in fact right up to full replacement internals - and is presently the only professional repair source in the country.

3. The PC Engine user club is only available to Micromedia owners (who are automatically logged onto our computer) and is FREE. You will get the monthly magazine and access to our telephone hotline, now and into the future.
4. Picture quality and hardware reliability are far superior. Don't take our word for it, your local computer shop will soon be stocking it (and if not why not), so see for yourself. Alternatively, write for details of special mail order offers.

**MICROMEDIA SALES AND MARKETING LTD**  
Whistleberry Industrial Estate,  
Blantyre, Glasgow, G72 0TH  
Telephone: (0698) 822055  
Fax: (0698) 823200

**BUT IF IT HASN'T GOT OUR SEAL, IT HASN'T GOT OUR SUPPORT**

**VSE**  
Technical Services

**High Quality Repairs  
Low inclusive Prices  
The Logical Choice!**

### REPAIRS

Amstrad CPC 464.....	£21.90
Amstrad CPC 6128.....	£24.90
Commodore C64.....	£19.90
Spectrum 48K/Plus.....	£14.90
Spectrum 128K.....	£16.90
Spectrum Plus 2.....	£19.90

All repairs guaranteed 4 months. Prices quoted apply to any single fault\* and are inclusive of parts, labour and V.A.T. FREE Return Carriage for UK Mail Order customers.

\*Excludes replacement of CPC/C64 keyboard assembly or CPC disk drive. (FREE estimate given)

**VSE Technical Services (Dept 108), Unit 6,  
8 Nursery Road, London. SW9 6NB  
Tel: 01 737 0234**

## ★ ★ ★ CERTIFIED DISKS ★ ★ ★

Including Labels, Sleeves and our No-Quibble Guarantee

### 3 1/2" VERBATIM BULK DS/DD 135 TPI

Each disk is checked and certified. Suitable for Amiga

25	50	100	200	400	600
£21	£37	£70	£130	£250	£355



### 5 1/4" DS/DD

25	50	100
£7.25	£13.50	£26.50

Prices include  
VAT & Carriage



### DISK BOXES

Hinged Lid Lockable  
50 x £3.25 100 x £5.75

Add £2 P&P if not ordered with disks

ALL GOODS DESPATCHED SAME DAY

**WESTONING LTD**  
12 SANDERSON ROAD, WESTONING, BEDFORD, MK45 5JY  
(0836) 775060



# 520ST-FM SUPER PACK



**1Mb DISK DRIVE  
£450 OF SOFTWARE**

ARCADE GAMES		
Arkanoid II	Imagine	£19.95
Beyond The Ice Palace	Elite	£19.95
Black Lamp	Firebird	£19.95
Buggy Boy	Elite	£19.95
Chopper X	Mastertronic	£9.99
Ikari Warriors	Elite	£14.95
Marble Madness	Electronic Arts	£24.95
Quadrillen	Logotron	£19.95
Ranarama	Hewson Consultants	£19.95
Return To Genesis	Firebird	£19.95
Roadwars	Melbourne House	£19.95
Starquake	Mandarin	£19.95
Test Drive	Electronic Arts	£24.95
Thrust	Firebird	£9.95
Thundercats	Elite	£19.95
Wizball	Ocean	£19.95
Xenon	Melbourne House	£19.95
Zynaps	Hewson Consultants	£19.99

SPORTS SIMULATIONS		
Eddie Edwards Super Ski	Elite	£19.95
Seconds Out	Tynesoft	£19.95
Summer Olympiad '88	Tynesoft	£19.95

PRODUCTIVITY SOFTWARE		
Organiser	Triangle Publishing	£49.95

JOYSTICK		
Atari CX40 Joystick	Atari Corp	£4.99

**FREE ATARI BUNDLE VALUE: £458.97**

The Atari Super Pack is ideal for you if you want to get off to a flying start with the best in entertainment software. The Pack includes a 520ST-FM with 1/2Mb RAM, a built-in 1Mb disk drive, over £450 of top games and a joystick. If you buy the Super Pack at Silica Shop, we will add our own ST Starter Kit (worth over £200), Free Of Charge. Return the coupon for details.

# £399

INCLUDING VAT

With SM124 mono monitor: £498 <sup>INC</sup> <sub>VAT</sub> With SC1224 colour monitor: £698 <sup>INC</sup> <sub>VAT</sub>

# 1040ST-FM PROFESSIONAL PACK

## NOW WITH TV MODULATOR

For the serious home user and the small business, we are pleased to announce a new package based around the 1040ST-FM. The 1040ST-FM has 1Mbyte RAM and a 1Mbyte built-in disk drive. In addition, the 1040ST-FM now comes with a TV modulator built-in. (The previously available 1040ST-F was designed for use with a monitor only and did not come with a modulator.) This modulator allows the 1040ST-F to be plugged directly into any domestic TV set, and comes complete with a lead to allow you to do so. The new 'Professional Pack' from Silica includes the new 1040ST-FM with modulator plus four high quality software packages including a spreadsheet, database, word processor and programming language. This 'Professional Pack' software will enable you to get straight down to business with your new computer. In addition to this software (worth £384.84), if you buy the Professional Pack from Silica Shop, you will also receive the Silica ST Starter Kit (worth over £200), Free Of Charge. Return the coupon for further information.



# £499

INCLUDING VAT

With SM124 mono monitor: £598 <sup>INC</sup> <sub>VAT</sub>  
With SC1224 colour monitor: £798 <sup>INC</sup> <sub>VAT</sub>

ATARI 1040ST-FM	(Computer)	£499.99
VIP PROFESSIONAL	(Spreadsheet)	£149.95
MICROSOFT WRITE	(Word Processor)	£149.95
SUPERBASE PERSONAL	(Database)	£59.95
BASIC DISK & MANUAL	(Language)	£24.98

NORMAL RRP: £884.82  
LESS DISCOUNT: -£385.82

**PROFESSIONAL PACK PRICE: £499.00**

# 2Mb & 4Mb MEGA ST

The MEGA ST computers are styled as a lightweight keyboard with a separate CPU, connected by a coiled telephone style cable. There are two versions of the MEGA ST, one with 2Mbytes of RAM and the other with 4Mbytes. Each version has a 1Mbyte double sided disk drive built-in to the CPU unit. The MEGA ST's do not come with modulator built-in and must therefore be used with a monitor. With every MEGA ST purchased, we will add the 'Professional Pack' software (worth £384.83) detailed above, plus the Silica ST Starter Kit (worth over £200) both Free Of Charge. Return the coupon for further details.

## 2Mb MEGA ST

**£899** <sup>INC</sup> <sub>VAT</sub>  
+ mono monitor = £998  
+ colour monitor = £1198

## 4Mb MEGA ST

**£1199** <sup>INC</sup> <sub>VAT</sub>  
+ mono monitor = £1298  
+ colour monitor = £1498



# DTP PageStream £149 <sup>+VAT</sup> =£171.35

Desktop Publishing (DTP) is one of the fastest growing applications for personal computers. We are pleased to announce a powerful low cost package for the Atari ST called PageStream. PageStream costs only £149 (+VAT=£171.35) and, because it works with an Atari 1040ST and a Seikosa SP-180AI printer, you can be up and running with a complete system for less than £1000. Some of the features of PageStream are listed to the right. If you would like further information on this program, complete and return the coupon below, ticking the 'DTP' box in the corner.

- \* TEXT-FLOW AROUND GRAPHICS
- \* ROTATION OF TEXT & GRAPHICS
- \* SLANT OR TWIST ANY OBJECT
- \* POSTSCRIPT COMPATIBLE
- \* TAG FUNCTION
- \* AUTO/MANUAL KERNING & HYPHENATION
- \* GROUPING OF OBJECTS



# ST COMPUTERS

The range of Atari ST computers offers something for everyone. From the games enthusiast who wants the challenge of the very best in arcade action, to the businessman who wants to make financial forecasts or faultless presentations. The ST offers high quality graphics, sound and speed for the gamer, whilst providing a fast, user friendly and affordable solution to business. The ST is now firmly established in the home environment and boasts a wealth of users in education, local government, television, and a variety of different businesses. Software for the range stretches to cover applications as diverse as ENTERTAINMENT, ACCOUNTS, ART, COMMUNICATIONS, COMPUTER AIDED DESIGN, DATABASES, DESKTOP PUBLISHING, EDUCATION, MUSIC, PROGRAMMING, SPREADSHEETS, WORD PROCESSING and more. For a full list of the software available, as well as details of the ST range, complete and return the coupon below.

All prices correct at the time of going to press. E&OE.

# 520ST-FM EXPLORER PACK WITH BUILT-IN 1Mb DISK DRIVE



The value for money offered by the Atari ST range is reflected in the Explorer Pack featuring the 520ST-FM computer with 512K RAM. The 520ST-FM computer now comes with a built-in 1 Mb double sided disk drive as well as a free mouse controller and a built-in TV modulator. The new 520ST-FM Explorer Pack includes the 520ST-FM computer, the arcade game Ranarama, a tutorial program and some useful desktop accessories. In addition, if you buy the Explorer Pack from Silica, we will give you the Silica ST Starter Kit worth over £200, FREE OF CHARGE. Return the coupon for details of our Starter Kit and of the full ST range.

# £260

ONLY £2.<sup>51</sup> PER WEEK  
RETURN COUPON FOR DETAILS  
+VAT= £299

+ SM124 mono monitor: £398 <sup>INC</sup> <sub>VAT</sub> + SC1224 colour monitor: £598 <sup>INC</sup> <sub>VAT</sub>

# WHY SILICA SHOP?

Before you decide when to buy your new Atari ST computer, we suggest you consider very carefully WHERE you buy it. There are MANY companies who can offer you a computer, a few peripherals and the top ten selling titles. There are FEWER companies who can offer a wide range of products for your computer and expert advice and help when you need it. There is ONLY ONE company who can provide the largest range of Atari ST related products in the UK, a full time Atari ST specialist technical helpline and in-depth after sales support, including free newsletters and brochures delivered to your door for as long as you require after you purchase your computer. That one company is Silica Shop. We have been established in the home computer field for ten years with an annual turnover in excess of £8 million and can now claim to meet our customers requirements with an accuracy and understanding which is second to none. But don't just take our word for it. Complete and return the coupon below for our latest literature and begin to experience the Silica Shop specialist Atari service.

**SILICA STARTER KIT:** Worth over £200, FREE with every Atari ST computer bought from Silica.

**PROFESSIONAL PACK:** Free business software with 1040ST-FM and MEGA ST's bought from Silica.

**DEDICATED SERVICING:** 7 full-time Atari trained staff with years of experience on Atari servicing.

**THE FULL STOCK RANGE:** All of your Atari requirements from one place.

**AFTER SALES SUPPORT:** The staff at Silica are dedicated to help you get the best from your ST.

**FREE CATALOGUES:** Mailed direct to your home as soon as we print them, featuring offers as well as all of the new releases.

**FREE OVERNIGHT DELIVERY:** On all hardware orders shipped within the UK mainland.

**PRICE MATCH PROMISE:** We will match competitors on a 'same product same price' basis.

**FREE TECHNICAL HELPLINE:** Full time team of Atari technical experts always at your service.

# FREE SILICA STARTER KIT WORTH OVER £200

WITH EVERY ST - RETURN COUPON FOR DETAILS  
ALL PRICES QUOTED INCLUDE FREE UK DELIVERY

# DO YOU OWN AN ATARI ST?

If you already own an Atari ST computer and would like to be registered on our mailing list as an ST user, let us know. We will be pleased to send you copies of our price lists and newsletters FREE OF CHARGE as they become available. Complete the coupon and return it to our Sidcup branch and begin experiencing a specialist ST service that is second to none.

## SILICA SHOP:

**SIDCUP (& Mail Order)** 01-309 1111  
1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX  
OPEN: MON-SAT 9am - 5.30pm LATE NIGHT: FRIDAY 9am - 7pm

**LONDON** 01-580 4000  
52 Tottenham Court Road, London, W1P 0BA  
OPEN: MON-SAT 9.30am - 6.00pm LATE NIGHT: NONE

**LONDON** 01-629 1234 ext 3914  
Selfridges (1st floor), Oxford Street, London, W1A 1AB  
OPEN: MON-SAT 9am - 6.00pm LATE NIGHT: THURSDAY 9am - 8pm

To: Silica Shop Ltd, Dept NCE 0689, 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX  
**PLEASE SEND FREE LITERATURE ON THE ATARI ST**

Mr/Mrs/Ms: ..... Initials: ..... Surname: .....

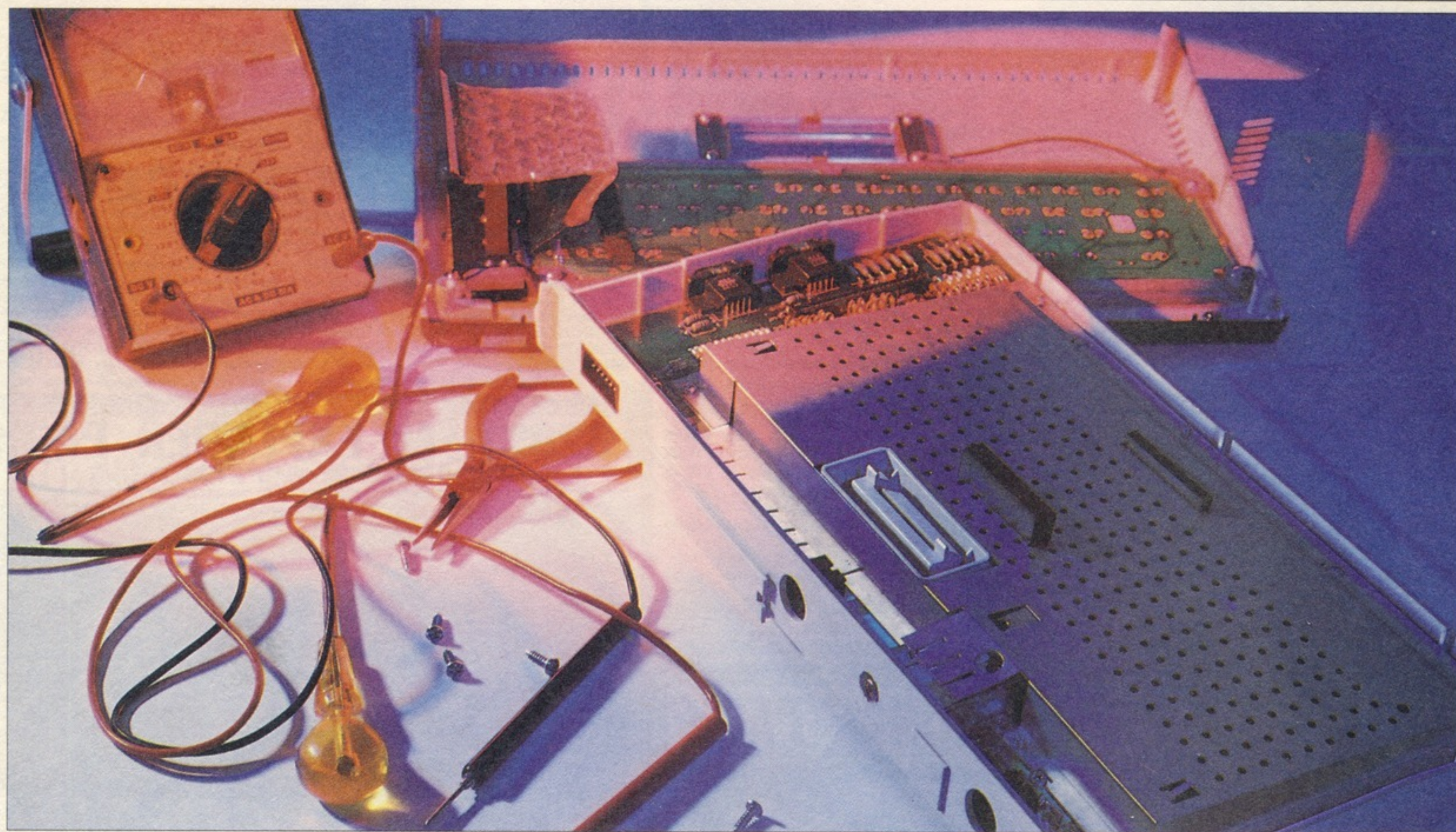
Address: .....

Postcode: ..... Dept NCE 0689

Do you already own a computer  
If so, which one do you own? .....

DTP





# EMERGENCY SURGERY

*Computers are like any other machine: they sometimes break down, always at the worst possible moment, always unexpectedly – but not always beyond repair. Jerry Glenwright looks at what to do when your machine goes wrong...*

## Where to go

Check out our list to find a computer repair centre willing to handle your machine...

● **Spectrum:** WTS Electronics, Studio Master House, Chaulend Lane, Luton, Beds LU4 8EZ. Tel. 0582 491949. WTS offers a fixed-price repair service ranging from £14 to £32, depending upon which Spectrum you have. Prices are inclusive of parts, labour and VAT and they offer a turn around of only one week. Electronic Services, 176 Victoria Road West, Cleveleys, Blackpool FY5 3NE. Tel. 0253 822708. Electronic Services stocks a complete range of spares for the Spectrum computer and offers a repair service for the fixed price of just £9.99 plus parts and return carriage.

● **Commodore 64:** Video Vault LTD, Old Kingsmoor School, Railway Street, Hadfield,

Cheshire SK14 8AA. Tel. 04574 66555/69499. To make use of Video Vault's repair service, just send your broken C64 and a cheque or PO for the inclusive price of £35 to the address above or take your machine along to them for a one hour while-you-wait repair.

W.T.S. (address as for Spectrum). Complete repair for the inclusive price of £22.

● **Amstrad PCW:** Isenstein Computer Systems, Unit W11, Chester Enterprise Centre, Hoole Bridge, Chester CH2 3NE. Tel. 0244 822768. Isenstein can supply all PCW spares from main system boards to the smallest capacitor. They also offer inclusive price repairs e.g. Keyboards £15, Printer £15, Monitor £30.

● **Amstrad CPC464/ 664/ 6128:** VSE Technical Services, Unit 6, 8 Nursery Road, London

SW9 8BP. Tel 01 737 0234. VSE repairs the 464/664 for an inclusive price of £21.90 and the 6128 for 24.90 which include a 4 months guarantee and all parts, labour, return carriage etc.

● **BBC/Electron:** WTS Electronics, Studio Master House, Chaulend Lane, Luton, Beds LU4 8EZ. Tel. 0582 491949. You can have your Beeb repaired for an all-in price of £38 and the Electron put back together for £29. Repairs include a three month warranty, parts, labour and VAT.

● **Commodore Amiga:** Commodore Business Machines, The Switchback, Gardener Road, Maidenhead, Berkshire. Tel. 0628 770088.

● **Atari ST:** Atari UK, Railway Terrace, Slough, Berks. Tel. 0735 33344.

It might come with a flash of sparks – or with a blank and lifeless screen. Your pride and joy has just taken a nose dive into the silicon graveyard. The ideal solution is to buy a new machine, maybe upgrade to something better. However, if – like most of us – you simply can't afford to, you'll have to think about having your machine repaired.

The first step on the road to repair is to determine whether your computer is still under its original guarantee. If so, then a phone call to the manufacturer to obtain a return number is all that's needed. Parcel the machine safely – the Post Office isn't renowned for delicate handling – mark it as fragile, take out postal insurance and send it off. You should have the computer back within a couple of weeks as good as new. The legal position is quite clear – unless the problem is due to excessive wear and tear, anything that goes wrong should be put right for you.

Some manufacturers allow you to 'renew' your guarantee by paying a small fee, others automatically provide a new guarantee for the work carried out.

## Bin and gone

If the guarantee is that bit of paper which went into the dustbin five years ago, then you're going to have to find a company with sufficient stocks of spares willing to carry out the work for a reasonable sum.

Due to the Sinclair habit of sending out new replacement machines to owners of Spectrums, ZX81s and the like, that had arrived intact but



non-working, there are lots of spares around for these machines. Both the Spectrum and the ZX81 used standard technology such as the Z80 CPU and its support components, all of which were incredibly popular a few years ago. For instance, you can buy a Z80 chip for just £2.99. Sinclair parts such as the ROMs, main PCB (Printed Circuit Board to the un-initiated), TV modulator etc, are all readily available at little cost.

Consequently, there are more companies providing repairs for the humble Spectrum than for all the other (home) machines put together.

Typically, repair companies offer an 'all in one' price which covers anything that may be wrong with the machine. You simply send off your Spectrum with a description of the problem and it's returned 14 days later as good as new for around £10 to £15.

You could of course attempt the repairs yourself, but without the necessary test equipment such as a logic probe, oscilloscope, and multimeter it would be difficult for you to locate faults with chips and discrete components. If the fault lies with the keyboard then it is possible to repair this without the need for costly tools. A keyboard membrane will cost you anything from £5 to £10, templates cost around a fiver and the keyboard mat about £6.

All these bits are easy to install providing you take your time and use a little common sense. You'll need small crosshead and flat blade screwdrivers, long-nose pliers and perhaps a pair of tweezers.

The Commodore 64 was, along with the Spectrum, one of the most popular home machines ever made and like the Spectrum, there are a lot of repair centres around the country.

The C64 commands a significantly higher repair price over the Spectrum, but at least there are people still carrying out the repairs. Typically, charges will be around £30 fully inclusive.

## Dying PCW

Probably today's most popular 8-bit machine must be Amstrad's PCW range of machines. Although well made and reliable the computer does occasionally go sick, but fear not! PCW parts are readily available from a number of outlets for reasonable prices or you can elect to have your computer repaired for a fixed sum of which you will be notified before the repair is carried out.

It is a fairly straightforward task to take apart a PCW, although because the disk drive(s) are housed in the monitor case it's sometimes a little difficult to find enough clearance for a screwdriver, so nimble fingers and watchmaker's screwdrivers will win here.

Amstrad's other 8-bits - the CPC464/ 664/ 6128 also have support centres providing comprehensive repairs for an all-in price of around twenty pounds. You can also buy spare parts separately at minimal cost but, as with the Spectrum, unless you are suitably equipped, component repairs are a little difficult.

As for the other 8-bit machines such as the BBC, Electron, Dragon etc, there are companies willing to repair these machines. They're usually a little more expensive than the mainstream computers, but then it's cheaper than buying a new machine.

What about the Amiga and ST? They're very popular machines, so surely there must be lots of companies ready and willing to repair them? Take a look through the classifieds of any computer mag - no-one!

The best thing to do with these machines is to contact Atari and Commodore directly, who will be able to give you the address of your local officially-appointed service centre.

## How safe are you?

Just how reliable is your micro? Well, if your machine makes it through the first week it should last several years. Chips have a 'burn-in' period of a few days; once over that, they should work practically indefinitely.

One common problem reported by computer



It might come with a flash of sparks - or with a blank and lifeless screen. Your pride and joy has just taken a nose dive into the silicon graveyard.

repairers is machines that have blown because things have been plugged in and out while it's switched on. As a general rule, never plug in or unplug a joystick, interface or printer while the machine is switched on - the power surge caused can blow your machine, and it'll cost you to get the thing repaired.

Most micros are, of course, perfectly reliable and will give you several year's faithful service. But read on to find out the Achilles Heels of your machines...

● **PC** Generally reliable. The thing most likely to go is you hard disk - most of the cheaper ones only have a designed life of about two years.

## Tools of the trade

Carrying out your own computer repairs is feasible if you exercise care when handling delicate components, equip yourself with the necessary range of tools and get a good book which explains the basic principles of computer repair.

Tools? Well, you'll need a range of screwdrivers of both the crosshead (otherwise known as 'Phillips') and flatblade types. The best thing

is to buy a set of jewellers'/ watchmakers' screwdrivers. They cost about £10 to £15 and with them you should be able to open anything even vaguely electronic. You'll also need a soldering iron. Get one which is rated between 15 and 17 watts. Anything larger will destroy delicate components. Snub and long-nose pliers are necessary, as is a mini multi-meter for test purposes (available from Tandy for about

£10). A good pair of tweezers are a boon and if you can afford it get some wire strippers and a sharp knife.

This is the (very) basic kit, which will let you get machines open and poke about inside.

The most important requirement is knowledge - without it, you'll almost certainly make things worse. The best books on computer repair are reviewed in this Express on page 14.



# COMPUTER REPAIRS

EXPRESS GUIDE

They're very susceptible to shock especially if moved when switched on! Power supply problems can also occur, but the most likely thing to affect your machine is wear and tear.

● **ST and Amiga** Again, pretty reliable and you won't have too many problems. (Avoid unplugging the printer on the Amiga when it's switched on, though, as this can blow one of the chips).

The most common problem is that a chip springs out of its socket, causing your machine to appear dead. Try picking it up and putting it down on the table again firmly – it can jiggle the chip back into place. Otherwise it's a simple job for the repair people to put it back for you.

Mice wear out pretty quickly but there's a simple remedy to that – buy a new one.

The ST keyboard can hang occasionally when the keyboard chip goes. It might just work again after rebooting, but possibly only for a few seconds. Again, a simple and inexpensive job for the repair people.

● **PCW** Very reliable – the main enemy is wear and tear. The keyboard is not well thought of by many and once it gets 'spongy' (a dead 'E' key gives away the writer or journo!) you're best having it repaired professionally. If the dot matrix printer pins wear out (losing tops and bottoms of letters) you can stave off repair by altering the pressure setting knob at the right underneath the black plate at the front of the printer.

● **Spectrum** 99% of problems with the Spectrum are caused by plugging in joysticks with the machine switched on. Normally this just takes out a transistor though it can cause quite a lot of damage to the memory. WTS Electronics say normally the ZTX650 has gone, a straightforward repair.

The membrane on the keyboard can also go and the connection sockets can get worn pretty quickly too by careless pulling out and plugging in.

Symptoms of a sick Speccy are crashes a couple of seconds after switching on, little flecks on the screen or colour blocks.

Failure to load a full 48K game is the sign of damaged memory chips, a minor repair. The +2 is notorious for tape deck problems, and if the keyboard goes down you'll have to get a new one. The +3 has also been known to have problems with the disk drive.

● **C64** 'Not too bad', say the engineers – but not too good either. Replacement parts for the C64 are difficult to obtain.

The most common problem is not with the computer but with the power supply. VSE Engineering's Tim Morris told us that 9 out of 10 broken C64s had been zapped by an over-enthusiastic power unit. 'They're supposed to deliver 5V,' he said, 'but some of the ones brought in by people with dead C64s were producing 11V – 5.3V is enough to cause damage!'

If your C64 dies on you, take the power supply to a computer shop and get it checked out – it could save your C64 going again!

● **CPC** The Arnold has a good name in reliability and few common problems are reported. The main things to watch for are the 6128's disk drive and the cassette motor on the 464.

● **BBC** Reliable, say the engineers. The power supply is the most likely thing to go down. If you can't type anything at the keyboard it's probably the 6522, they say, and the memory occasionally fails. BBCs are difficult to repair as there are so many bits and pieces inside them, so it's just as well they're reliable!

Technical centres covering every kind of repair for almost all of the popular home and small business machines are dotted around the country. The repairs are usually relatively cheap and come with a guarantee. Don't consign your broken machine to the trash – have it repaired! ●

## On the RAK

Unlike the repair centres servicing home computers, the IBM-PC engineering world is an exclusive, highly specialised – almost elitist – industry which prospective repair companies must jump through hoops to join.

Before ever being allowed near an IBM PC, the company wishing to undertake repairs must pass several stringent tests in order to satisfy IBM of its engineering ability.

Engineers employed by the company travel to an IBM examination centre and sit several papers which – if they pass – qualifies them as Field Service Engineers.

No only are the engineers tested, but the premises are inspected and the tools and equipment checked.

If after completing and passing all these checks the company still hasn't incurred any black marks, then it is awarded the coveted (!) IBM dealership and Service Centre status, and can embark on the selling and repair of the PC.

Ironically, the IBM-PC and its many compatibles are probably the easiest of all small computers to repair due to the open architecture design of the machine. Spares are also readily available so there's never the long waiting periods associated with the repair of some of the home micros.

One such IBM Service Centre is RAK Computer Services based in Norwich.

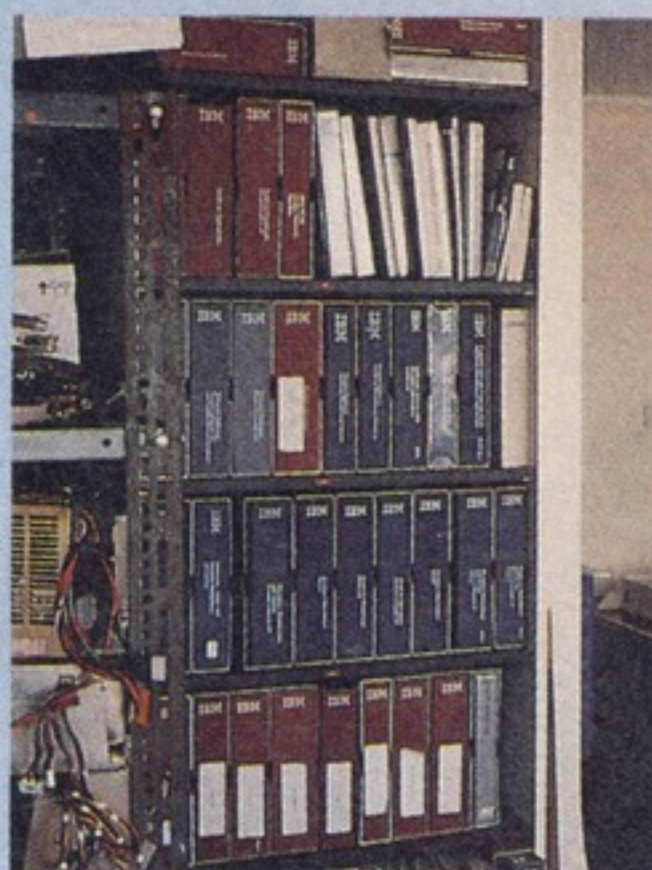
The company has been in the computer industry for many years and RAK began by selling CP/M business machines and bespoke software to local businesses in and around Norwich.

Once the IBM-PC began to attract a large business following the company invested a lot of money and effort in setting up a capable and efficient engineering department able to deal with all problems associated with the machine and its peripherals.

The engineering department boasts five full-time engineers who – whilst conversant with all aspects of computer, monitor and printer repair – are especially adept at solving arcane problems buried deep in the hardware of the PC.

After hard drives, probably the least reliable components are the expansion cards that every PC seems to have plugged into it in wild abandon.

Usually emanating from third-party peripheral manufacturers, these cards covering everything from screen display, RAM expansion and real-time clocks, to network adaptors and joystick



• There's a small planetful of manuals and servicing data necessary to tackle all aspects of PC repair



• Dead printers and monitors, power supplies, cables and bits of wire – all casualties of the repair centre



• Next to disk drive problems, the peripheral adaptor cards are the most likely to fail. Removing these cards is a simple matter of opening the PC's case and unplugging the card from the expansion slots – it's then that the fun begins. Unless the faulty component is simple to locate, the card is likely to be consigned to the dustbin!

connectors are usually the first to blow should anything untoward happen to the computer, such as a power surge or sharp knock.

Effecting a repair is a simple matter of opening the PC's case and unplugging each card in turn, in order to locate the defective adaptor.

Once discovered, the offending card is tested using an oscilloscope and logic probe to determine the actual problem.

Often, after locating faulty components on a card, it may be decided that the repair isn't cost effective, the card is

binned and a replacement plugged in its place – and this happens quite often. You'd be amazed at the peripherals consigned to the trash, disk drives, RAM cards, network cards all in the bin without turning a hair!

Your PC may cost a little more to repair than the average home computer, but you can be sure that servicing will be carried out by qualified personal using the latest equipment.

For all your computing needs, RAK can be contacted on 0603 617674.



**SUMMER SPECIALS**

**TRILOGIC**

**ALL PRICES INC VAT**

- AMIGA A500 + free TV MODULATOR + MOUSE + AMIGA BASIC + WORKBENCH 1.3 & MANUALS .....£359.99
- AMIGA A500 + FREE TV MODULATOR + MOUSE, WORKBENCH 1.3 + £230 OF GAMES SOFTWARE ..£389.99
- AMIGA B2000, 8833 MONITOR, XT BRIDGE BOARD + 5.25" DRIVE + 20Mb HARD DISK+ DOS 3.2 ..... £1469.99
- THOMPSON 12" RGB & VIDEO MONITOR FOR AMIGA/ST/C64/128 ETC 0.41MM DOT PITCH +LEAD .....£159.99
- PHILIPS CM8833 RGB / VIDEO STEREO MONITOR + LEAD, MEDIUM RES, 0.41MM DOT PITCH .....£219.99
- PHILIPS PRO8CM852 HIRES RGB MONITOR + LEAD. 0.39MM DOT PITCH, MONO SOUND .....£269.99
- VISION 4200 RGB MED RES MONITOR, MONO SOUND. AMIGA & ST COMPATIBLE + LEAD .....£209.99
- AMSTRAD DMP3160 PARALLEL DOT MATRIX PRINTER & LEAD 160 CPS DRAFT, 40CPS NLQ .....£129.99
- CITIZEN 120D PARALLEL PRINTER & LEAD (IMPROVED 180E = £169.99) .....£135.99
- STAR LC10 (NX1000 EURO BADGED VERSION) FOR CBM 64 & 128 (STAR LC10 PARALLEL £199.99) ... £184.99
- AMSTRAD PC1512 SINGLE DRIVE MONO WITH MOUSE, GEM DESKTOP + DOS 3.2 ETC .....£425.99
- AMSTRAD PC1512 SINGLE DRIVE COLOUR (CGA) WITH MOUSE , GEM DESKTOP + DOS 3.2 ETC ..... £535.99

**SPECIAL PRICES QUOTED ABOVE ARE FOR LIMITED PERIOD.**

CARRIAGE ON ABOVE £3.50 PER ORDER. NEXT DAY DELIVERY £6.99

**AMIGA EXTERNAL DRIVE**

880K FORMATTED + THROUGH PORT & SWITCH  
LOW POWER CONSUMPTION, QUIET & RELIABLE.  
**ONLY £79.99** UK MADE

- REPLACEMENT INTERNAL DRIVE FOR AMIGA .....£77.99
  - CUMANA CAX354 3.5" 880K AMIGA DRIVE .....£94.99
  - CUMANA ATARI 3.5"1Mb DRIVE.....£107.99
  - OC118N 51/4" DRIVE FOR C64 & 128 ..... £118.99**
- HIGHLY COMPATIBLE, WITH DEVICE SELECT SWITCH  
SEPARATE MAINS POWER UNIT.

**SONY DISK BARGAINS**

- SONY 3.5" DS/DD DISKS PER 10 ..... £12.99
- SONY 3.5" DS/DD DISKS PER 25 ..... £28.49
- SONY 3.5" DS/DD DISKS PER 50 ..... £55.99
- SONY 3.5" DS/DD DISKS PER 100 ..... £100.00

**AMIGA ADD-ONS**

- TRILOGIC MIDI INTERFACE 1 ..... £29.99
- TRILOGIC MIDI INTERFACE 2 ..... £34.99
- MODEM V21/23 Demon II ..... £91.94
- DIGIVIEW GOLD Video Digitiser ..... £129.99
- VIDEO CAMERA B/W ..... £219.99
- DIGIPIC FRAME GRABBER ..... £249.95
- MINIGEN Genlock ..... £109.99
- GENLOCK 8802..... £299.99
- AMIGA MINIAMP STEREO SYSTEM ..... £19.99
- AMIGA MINIAMP4 STEREO SYTEM ..... £34.99
- AMIGA MONO SOUND DIGITISER ..... £27.99
- AMIGA STEREO SOUND DIGITISER ..... £37.99
- Public Domain Disk for above ..... £4.99
- AMIGA AUTOBOOT HARD DRIVE 40 Meg . £599.99
- AMIGA 2000 XT Bridgeboard MS DOS 3.2 £599.99
- AMIGA BBC Emulator & lead ..... £59.99

**HARD DISK FOR A500**

**AMDRIVE HARD DISK FOR AMIGA**

30Mb FORMATTED, SCSI INTERFACE & POWER SUPPLY IN ONE UNIT. Supplied with workbench 1.3, utility / boot disk.  
28mSEC ACCESS TIME. UK MADE  
**LOW PRICE - £399.00 INC VAT**  
50Mb VERSION ALSO AVAILABLE

**AMIGA LEADS & ACCESSORIES**

- AL1 TO SCART LEAD .....£9.99
  - AL2 FERGUSON .....£9.99
  - AL4 HITACHI/GRANADA .....£9.99
  - AL11 MULTISYNC MONITOR.....£9.99
  - AMP1 A500 PARALLEL PRINTER 1.5M .....£6.99
  - AMP2 A500 PARALLEL PRINTER 3M .....£9.99
  - RS1 A500RS232 PRINTER CABLE 1.5M.....£10.99
  - RS5 A500 / A500 NULL MODEM CABLE .....£7.99
  - RS6 A500 MODEM CABLE 1.5M.....£10.99
  - AEL1 AMIGA 64 EMULATOR LEAD .....£7.99
  - BEL1 BBC AMIGA EMULATOR LEAD.....£7.99
  - DJA1 MOUSE JOYSTICK SWITCHER .....£10.99
  - ADE3 EXTERNAL DRIVE SWITCH .....£8.99
  - NEW - MONITOR SHARER.** ENABLES 2 COMPUTERS EG AMIGA & ST TO SHARE ONE MONITOR WITH SCART SOCKET .....£15.99
  - MOUSEMAT - NON SLIP FELT TYPE .....£4.99
- MANY OTHER LEADS AVAILABLE SEE OUR CATALOGUE OR PLEASE ENQUIRE.

**SCHNEIDER PCS**

- EURO PC MONO..... £449.9
- 9 EURO PC COLOUR ..... £629.9
- 9 HARD DISK 20meg..... £343.8
- 5 EXTERNAL 5.25" DRIVE ..... £129.9

Prices include monitors. Single 720k drive, 9.54 MHz clock Dos 3.3 PLUS MICROSOFTWORKS - An excellent integrated wordprocessor/database/spreadsheet/communications etc

**\*\*\* SPECIAL OFFER.**

FREE SCHNEIDER MOUSE WITH ANY EURO PC + HARD DISK + STAR OR CITIZEN PRINTER.

**AMIGA BOOKS**

- AMIGA DOS MANUAL(Bantam) ..... £22.95
- AMIGA MACHINE LANGUAGE(Abacus) .. £14.95
- AMIGA TRICKS & TIPS (Abacus) ..... £14.95
- AMIGA DISK INSIDEOUT (Abacus) .. £27.95
- AMIGA PROGRAMMERS HANDBOOK. £24.95

**BUSINESS SOFTWARE**

- KIND WORDS (wordprocessor) ... £49.99
- PUBLISHERS CHOICE (DTP) ..... £99.99
- PAGE SETTER ..... £79.99
- SMALL BUSINESS ACCOUNTS ... £80.44
- SUPERBASE PERSONAL ..... £59.95
- SUPERBASE PERSONAL 2..... £99.99
- SUPERBASE PROFESSIONAL..... £249.95
- WORKBENCH 1.3 ..... £19.99
- PROJECT D (ultimate Amiga copier) . £39.99



PLEASE PHONE FOR FREE CATALOGUE.. CALLERS WELCOME

**HOW TO ORDER:-** HOTLINE FOR ACCESS & VISA ORDERS. OR SEND CHEQUE/P.O. Please add 75p postage to orders under £15.00. Optional EXPRESS DELIVERY £1.99. Insured carriage on computers, printers, disk drives & monitors £3.50. Optional COURIER DELIVERY £6.99. Books add £2.00 postage. order.

**TRILOGIC, Dep NC, UNIT 1, 253b NEW WORKS ROAD, BRADFORD, BD12 0QP. Tel 0274 691115**



# EXPRESS MAIL

## Dear Reader

More pages packed with another selection from our postbag and Rob Ainsley's replies. Have you got something to say? Make your voice heard in computing's liveliest letters page! Send your contributions to: **Express Mail, 4 Queen Street, Bath, Avon BA1 1EJ**

PS. Sorry, we just don't have the time to give personal replies, whether you include an SAE or not. We're too busy putting Express together!

## MSX MAG

Could you publish the following address in your magazine somewhere where MSX users may see it. It is simply for those still pining for a mag.

MSX PD Software have published one consisting of 20 pages of info, tips, small ads, letters and a huge selection of 3.5 inch PD disks. As of yet there are no games reviews but if you are into programming it has a complete PD catalogue and I'd recommend it. The address is:

**MSX Cat-Mag, 396 Park Lane, Maghull, Merseyside, L31 2HQ. Tel: (052) 531 7497**

The first issue is £3 with free quarterly updates of around the same length. Wayne Morrison, Gateshead, Tyne and Wear

● Thanks Wayne. Who said the MSX is dead, eh! (Answers next week).

## PDQ PD

I keep reading in your magazine about people who are unable to afford to buy games and software they would like. Perhaps you could remind the readers that there is some excellent PD software available for a very reasonable price of £2 to £3 a disk. I myself subscribe to ST Club, but I am sure there are other libraries for other users. You can get languages, games, utilities demonstrations and discounts for clubs off software. It seems a pity that people should miss out when excellent software is available. And of course, there are the classified advertisements in your mag. Janet Lord, Selby, North Yorkshire

## PIGG IGNORANT?

I was interested to see your article by Basil Pigg on BASIC English, but I am still surprised by the lack of knowledge where the Atari 8-bits are concerned.

There are numerous guides to Atari BASIC but three good ones are:- Atari BASIC: R. Albrecht and others. Atari Basic Source Book: B Wilkinson and others. Basic Reference Manual: by Atari. Ron James, Preston, Lancs

● Thanks - er, no chance of getting the

prices, ISBN numbers, publishers etc? It's difficult to order them otherwise, and (in our humble experience) bookshops do not stock 8-bit specific titles.

## PATIENCE OF JOB

I thought I would reply to S Lyle's letter (Express 31) regarding my own letter about the shortage of jobs in the computer industry.

While I welcome S Lyle's views, what they fail to appreciate is that computer operations is a different sphere of work altogether to that of programming/systems analysis and design - they may be rungs on the career ladder, so to speak, but it's not the same ladder! I wouldn't normally expect an operator of several years experience to progress to a programming post or indeed for a senior programmer to become an operator.

As I suspect S Lyle found out, operations jobs don't normally require any previous experience as an operator - except for senior positions, whereas programming posts usually ask for a relevant qualification, and experience gained in a commercial environment.

Regarding the comment about trying to start at the top, well the course I am about to finish is wholly concerned with programming/systems analysis and design - consequently I've been applying for trainee/junior programmer vacancies which as you can see are the bottom rungs on the ladder. If I was aiming for the top I would be applying for posts as systems analyst/consultant - wishful thinking! - rather than those above. Thank you.

Timothy Smith, Colwyn Bay, Clwyd

● Perhaps your best chance of getting work is to move to the South-East of England - though how you're expected to buy a flat at £60,000 on a salary of £9,000 I don't know. Just shows how well the economy is doing.

## COPY PROTECTION PT. 365

In reference to Mr Musson's letter (Express 29), have you at Express ever played *Insanity Fight* or *Technocop* on the Amiga? Try playing these games with the write protect on and they'll both crash at a certain point, *Insanity Fight* doing so when one saves high scores. Many games have high score tables which must

be kept on the original disks, and are only going to be saved if the disk is write protected.

On the issue of protected software, why do the software houses bother? Anyone who really wants to copy a game will do it, for every original game I've seen a hacked copy. At times before any advertisements have appeared. Novella protection can be by-passed by ripping the game apart or someone will load it again and again and make notes of the words.

On a different subject, don't the people who do these things have anything better to do with their time, something constructive perhaps? One hardly ever sees serious software protected, and GFA BASIC on the ST is an example of how a package can survive with any protection and set too. So why must games software be protected?

Ahmad Alam, Liverpool, Merseyside

● Serious software - a spreadsheet, say, or DTP package - is often unusable without the manual. (It's all too often unusable with the manual, but there you are). So, the theory goes, it is less vulnerable to copying.

I'm not convinced by the argument that it's pointless to protect because it'll be cracked anyway. Isn't that like saying it's pointless locking your front door because burglars will get in if they really want to, that it's pointless locking your bike up, guarding your Access card etc.

## WELL BASICALLY...

While reading your review of the new Archie A3000, I found myself checking out the features which I thought impressive. Plenty of them too - the RISC processor of course, eight channel sound, mega hi-res, BBC BASIC...

BBC BASIC? Is that meant to be impressive? I'm not knocking BBC BASIC here, but seeing it mentioned in the

## Incompleteness theorem

I am writing in answer to your request for readers views upon the practice - of reviewing incomplete software. It's just not right is it? I want to read about the finished product to see if it's worth buying but I don't mind reading previews of games as long as it is stated as such.

You tend to read any review with a pinch of salt anyway as people's individual opinions differ wildly and you take these into account. But to unwittingly read a review which is under the guise of the finished product can colour your opinion of the game. How often do you read conflicting reviews of one particular game and end up confused, not knowing whether to buy it or not? This can only be damaging to everyone. Long live the reviewers at Express and long may they prosper.

Moving swiftly on, it pays to shop around. I was down at the Commodore show in Hammersmith the other day and I think it was one of the better shows I've been to. Although I got stung for a tenner on the way in (£5



entrance fee x 2 - I was with my wife), I soon found that prices differed greatly for both hardware and software.

For instance £199 for a Star LC-10 printer at one store and £165 at another (Megaland) plus free lead and friendly service. The Protext word processor was obtained for £65 although it was being sold elsewhere for £89 ("won't get it cheaper squire").

Games varied a lot and there was, as you'd expect, a lot of competition. I had one poor bloke whose games were a bit pricey and presumably weren't shifting virtually begging with me to buy a "head cleaning kit". I told him I was skint and fled. He saw me later buying my printer so I hid behind my wife feeling somewhat guilty. All in all, if I'd just bought my stuff at the first place I'd seen I would be about £80 worse off.

Verdict, great show

but too hot. All my cheap stuff works perfectly too, so it is not always the case that the cheap stuff is rubbish as some people seem to think. Anyway my Repetitive Strain Injury is giving me jip and I'll have to stop typing with my feet.

Neil Barnes, Birmingham, West Midlands

● Thanks for your support on reviewing practice - it's something we feel quite strongly about. It's very easy for a games reviewer on a magazine to recommend everything, because we get them for free of course! But you have to put yourself in the punter's shoes - is this game really, honestly, worth spending ten or twenty quid on? That quickly cuts down the number of games you 'must go and buy' from a dozen a week to a dozen a year.

So, no apologies at all for making this the letter of the week as it makes us feel smug and righteous! Tell us your machine and we'll send you the finished product of a game we think really is worth the money.



review got me thinking about the use of BASIC in general, and why people seem to love BBC BASIC so much. The usual reason for liking BBC BASIC seems to be because it is highly structured. But the only thing that really matters is that it works.

I think that the majority of BASIC users see the language as a quick and easy means of knocking together programs which do not depend too heavily on speed, and while they take a bit of care, they don't particularly worry too much what the listing looks like.

I would have thought that Microsoft BASIC scores way above the BBC equivalent, as it is undoubtedly more friendly (eg nice little commands such as CIRCLE), and is fairly standardised. Before upgrading to my Amiga I used a Dragon, on which I have written several short BASIC programs. To run these on the Amiga, I simply made a 256 x 192 pixel window, copied the Dragon BASIC programs almost verbatim and they worked fine, with no fiddly little Dragon emulators.

I'd be interested to hear other readers views on the subject.  
Zennan Green, Kingussie, Inverness-shire

● So would I

**TEN WORST THINGS ABOUT COMPUTING...**

1. The inaudible 'Loud' speaker in the Spectrum 48.
  2. Diagonal function keys (for people with diagonal fingertips?), and nowhere to put a label, on Atari STs.
  3. All the machines without a 'Reset' button that leaves the RAM contents unchanged, so that you lose the last two hours work when the program hangs up.
  4. Machines without the operating system in ROM, so that you sit around for ages waiting for them to start (or restart after a crash) - several minutes in some (MS-DOS) cases.
  5. Programs that allow you to access information, such as disk directories, but scroll it rapidly through a tiny window (eg AMX Superart).
  6. Machines that insist on loading programs from tape all in one go, and erase the lot if the tape produces an error.
  7. Disk drives that don't retract the heads when not in use, so that they corrupt disks at power up and power down.
  8. That perforated bit at the left hand side of the original BBC Micro's keyboard that Acorn never did find a use for.
  9. All the daisywheel printers that are enormously wide (and heavy) despite the fact that no one ever prints anything but A4 paper with a daisywheel.
  10. Lockable disk boxes that all open with the same key, and can be broken open with your bare hands anyway.
- John Goldsmith, Bury St. Edmunds, Suffolk

● Anyone else fancy sending us their ten most unfavourite things about computing?

**BIAST?**

Coming onto the Atari ST, why does Express always seem to promote it? Have you got a contract with Atari or

something? Everyone knows as a fact that the Amiga beats the ST in everything, sound, graphics, games, etc., even ST owners with more than one brain cell admit this once they see the Amiga in action!

So why do you call the ST a good all-purpose computer, as if suggesting the Amiga isn't? Anything the ST does the Amiga does ten times better.  
Keith Grant... An Amiga Owner (in case you hadn't guessed yet!), Reading, Berks



● An Atari ST in a dustbin - another blatant demonstration of our anti-ST bias.

● Such as crash, perhaps? Enough has been said on the ST/Amiga debate for the time being. Suffice to say no, we're not on a contract from Atari, in fact they're always complaining about our anti-Atari bias, quite clearly demonstrated in our cover picture of an Atari 8-bit blowing up.

**FROM LITTLE ACORNS - BIG PORKIES?**

I, and probably many others along with David Dyball (Express 31) have also been conned by Elite Micros. My cheque was cashed 7 days after I posted it off and the only correspondence I have had was a letter which appeared to have been written by a four year old and void of any address, saying that their computer had a virus and there would be no catalogue.

If I thought it would achieve anything I would write to G Acorn of Elite Micros but I honestly believe it would be a waste of a stamp.

T McLaughlin, Ely, Cambs

Dear Sir/Madam,

We are sorry to inform you that we have received a virus from an unknown source. Therefore no catalogue. We picked it up in our Computer System. We are sorry.

We now advise you to send your list; We'll then send the price invoice, after paying you receive the software. We have everything. Thankyou and we're sorry for the inconvenience.

*C. Jones*  
Sales director

**WHEN I'M 64**

I only recently discovered your mag and am now buying it regularly. My only complaints are the small print and the fact that you haven't yet reviewed my favourite computer - the Cray 2 Turbo Laptop, with built-in ice-disk and free ice-pick (and GEM Eskimo Icons).

I gather from the tiny print and the heavy games emphasis that it's mainly for young people, so I must apologise for liking it: I'm so old that I remember when Paul McCartney wrote decent songs and had taste in women!

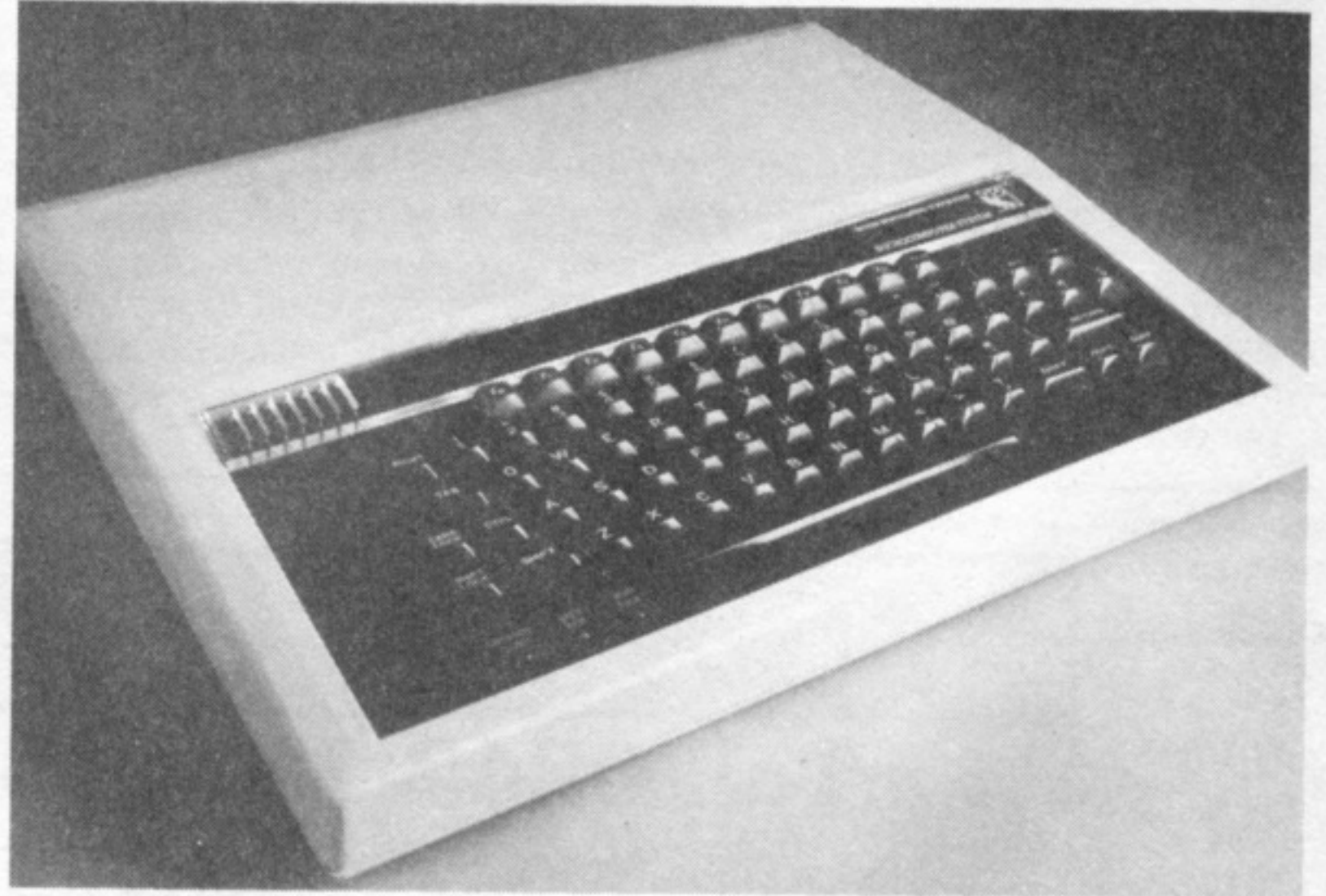
Could you please give a free gift with each issue, like other computer mags, e.g. a cheap plastic magnifying glass and a sticker for Mac IIs saying "Amstrad PCW - Half Price"?

Neil Foster, Prescot, Merseyside

● Sorry about the small print; we're just trying to cram in as much into the magazine as we can without felling more trees. We don't aim Express specifically at any age group, just anyone with an interest in computers. All the Express staff are in their twenties.

**BBC BIAS?**

Why do magazines such as yourself pretend to cater for a wide range of machines, but in reality favour only one or two, with the coverage of the others hardly worth the effort. In this respect the Beeb seems to suffer more than others. This trend seems prevalent in the four/five general mags I read from time to time, so much so that one is led to



● Too many magazines are biased against the BBC, reckons D E Williams

suspect a deliberate anti-Beeb bias.

Finally, not a bad mag for 58p - a good little read and it's a plus to find out what other people are selling floppies etc for.  
D E Williams, Cardiff, South Wales

● Well, we have a special column for the Beeb and always mention it in our features so I don't think you can accuse us of anti-Beeb bias. We try to cater for as many machines as possible while still retaining enough depth for each to be useful.

If FAST really wish to do some long term good they must make some changes in their own industry before laying all the blame at the consumers' feet who, though not innocent, is only trying to maximise his enjoyment and utility in a major investment, the computer hardware itself.

Yan Fa Li, Milton Keynes, Bucks

● Budget 16-bit software is still a long way away, I think, but at least more less expensive games, as it were, are on the way.

**PRESS FOR AUCTION**

I would like to congratulate you on the article on 'Computer Auctions' in issue 30.

Not only did I find the article very informative and well written, but it also inspired me to make my first visit to an auction.

This visit resulted in the purchase of a Brand New Amstrad DMP 3160 printer for the more than reasonable price of £90.

I find your magazine very interesting and full of useful information and helpful tips and hints. Keep up the good work.  
A D Baker, Basildon, Essex

● Thanks. A reminder that there are auctions coming up at Bristol on July 1st (details 0527 579120) at Hemel Hempstead on July 29th (01 681 5413) and soon in Surrey (0276 692260).

**AND FINALLY, ESTHER...**

I've enclosed a misprint from our local free press, the Caerphilly Campaign which employs ex-Telegraph typists as I feel it has something to add to the ST/Amiga battle.

I, incidentally, own an Amiga, which doesn't even faintly resemble a commode! I thought it would be wasted on 'That's Life'.

Nigel Nock, Caerphilly, Mid Glam.

**WANTED Commodore**  
folding if possible, good  
back support for old per-  
son. Tel: Caerphilly 863469  
anytime.



# COR, WHAT A LOVELY REPAIR

## UPGRADING AND REPAIRING PCS

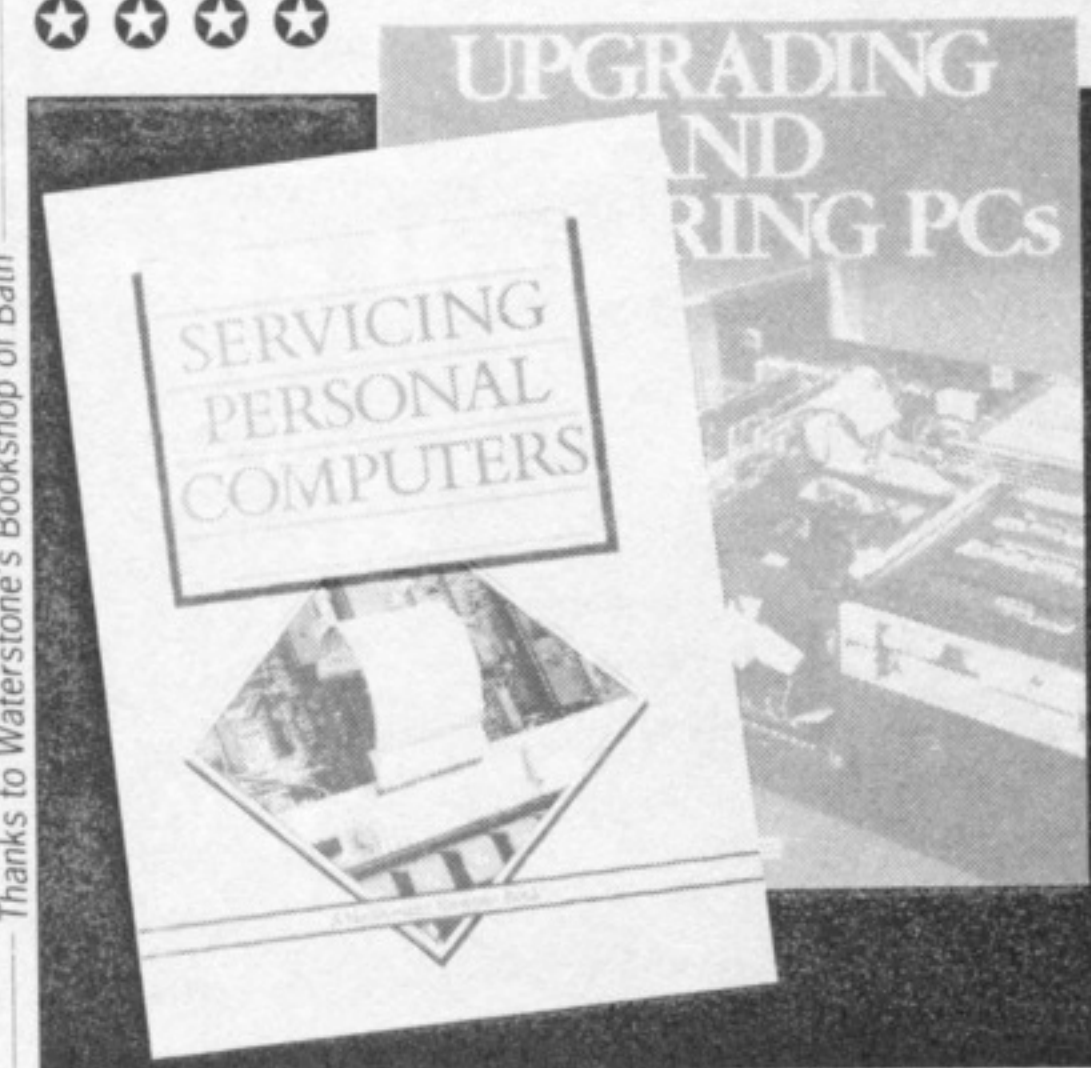
● SCOTT MUELLER ● QUE  
● £22.95 ● ISBN 0-88022-395-2

Mueller's book is set out in sections in that very American style which tells you what you're going to learn in this section beforehand, and what you've learned afterwards. However, it's very straightforward and easy to follow. It even starts off with a brief description of the history of computing to get you in the mood.

The book covers everything from installing another disk drive and changing hard cards up to component level repairs. Layout and explanation is perhaps clearer than the more wide-ranging Tooley book, though they're both very good and you wouldn't complain if you got either for your birthday.

Another good book, very comprehensive (700 pages) and well worth the money.

★ ★ ★ ★



Thanks to Waterstone's Bookshop of Bath

*Want to repair that old micro you've got? Or just want to fiddle around and be techie? Basil Pigg gets his soldering iron and looks at a couple of books that might help you...*

### SERVICING PERSONAL COMPUTERS (SECOND ED.)

● MICHAEL TOOLEY ● £20  
● HEINEMANN  
● ISBN 0-434-91975-6

**R**epairing your micro, or even just tinkering about with it, is a risky business. Most repair companies advise you not to attempt any repair yourself. OK, so they would wouldn't they, but it's all very involved, and not for the dabbler.

Tinkering about with something that makes car maintenance look like changing a light bulb is for real enthusiasts. And for them this book is ideal.

You can't do repairs without understanding how

a computer works, and all the functions of the innards (memory maps, registers, processor minutiae, disk drive engineering etc.) are described in detail.

There's also a special section on repairing PCs and the processors up to the Intel 80286 are covered.

There are BASIC routines to test the various bits of your machine and comprehensive troubleshooting. It details all the tools you need and has plenty of circuit diagrams and pinouts.

There are few repair books on the market, but this is undoubtedly the best. It's detailed, comprehensive and methodical, and for the budding techie it'll tell you everything you could ever want about computer repair.

★ ★ ★ ★

# NEEDFORWARD LTD

Tel: 0242 227746 Fax: 0242 227745

## SOFTWARE

TITLE	ATARI		AMIGA		TITLE	ATARI		AMIGA	
	R.R.P.	OUR PRICE	R.R.P.	OUR PRICE		R.R.P.	OUR PRICE	R.R.P.	OUR PRICE
1943	£19.99	£14.50	£19.99	£14.50	Jet	£34.95	£24.50	£34.95	£24.50
Advanced Art Studio	£24.95	£17.50			Knight Orc	£19.95	£14.50	£19.95	£14.50
After Burner	£19.99	£14.50	£24.99	£17.50	Leader-Collection	£19.99	£14.50	£24.99	£17.50
Beyond Zork	£24.99	£17.50	£24.99	£17.50	Legend of the Sword	£24.95	£17.50	£24.95	£17.50
Captain Blood	£24.95	£17.50	£24.95	£17.50	Mercenary 1	£19.95	£14.50	£19.95	£14.50
Carrier Command	£24.95	£17.50	£24.95	£17.50	Music Studio	£24.99	£17.50	£34.99	£24.50
Chrono Quest	£29.95	£21.50	£29.95	£21.50	Outcast	£9.99	£7.50		
Chuckie Egg	£19.95	£14.50	£19.95	£14.50	Pawn	£24.95	£17.50	£24.95	£17.50
Colossus Chess 4	£24.99	£17.50			Platoon	£19.95	£14.50	£24.95	£17.50
Daley Thompson	£19.95	£14.50	£24.95	£17.50	Return of the Jedi	£19.95	£14.50	£19.95	£14.50
Degas Elite	£24.95	£17.50			Space Harrier	£19.99	£14.50	£19.99	£14.50
Driller	£24.95	£17.50	£24.95	£17.50	Sprite Master (Adv.)	£24.95	£17.50		
Elite	£24.95	£17.50	£24.95	£17.50	Star Glider	£24.95	£17.50	£24.95	£17.50
F16 Falcon	£24.99	£17.50	£29.99	£21.50	Star Glider 2	£24.95	£17.50	£24.95	£17.50
Flight Simulator 2	£34.95	£24.50	£34.95	£24.50	Strip Poker 2	£14.95	£11.50	£14.95	£11.50
Garfield (Lightning Lip)	£19.99	£14.50	£24.99	£17.50	Strip Poker 2 (Data Discs)	£9.95	£7.50	£9.95	£7.50
Gauntlet 2	£19.99	£14.50	£24.95	£17.50	Thunder Blade	£19.99	£14.50	£24.99	£17.50
Guild of Thieves	£24.95	£17.50	£24.95	£17.50	Time and Magic	£19.95	£14.50	£19.95	£14.50
Hacker	£9.99	£7.50	£9.99	£7.50	Tracker	£24.95	£17.50	£24.95	£17.50
Hit Discs (Vol. 1)	£24.95	£17.50	£24.95	£17.50	Transputer	£19.95	£14.50	£19.95	£14.50
Hit Discs (Vol. 2)	£24.95	£17.50	£24.95	£17.50	Virus	£19.95	£14.50	£19.95	£14.50
Hyper Paint	£24.99	£17.50			Whirligig	£19.95	£14.50	£19.95	£14.50
					Willow	£24.99	£17.50	£24.99	£17.50

We also stock software for PC, Spectrum, BBC, Macintosh, C64 and many more.

Why not get even better value for money, join FOREGROUP today.

With an annual membership of £13.50 you could cover the cost with one game, at our membership prices.

All Cheques/P.O.'s made payable to:

**NEEDFORWARD LTD (Dept NCE)**  
52 Pennsylvania Avenue,  
HestersWay, Cheltenham. GL51 7JP

Please add £1.50 p&p to all orders





# MEGALAND → 0703 332225

## WHY MEGALAND

- 24 HR DELIVERY SERVICE
- 12 MONTH WARRANTY
- ON SITE MAINTENANCE (OPTION)
- TECHNICAL SUPPORT
- COMPARE OUR PRICES
- 24 HR ORDERING SERVICE

## MEGALAND SPECIAL OFFERS

Amiga 500 with a 1084S colour stereo monitor or Philips 8833 colour stereo monitor  
£548.00 inc VAT

Plus free steel pressed monitor stand

Also for limited period only A501 Ram expansion with clock  
£120.00 inc VAT

## ATARI PLUS VAT

520 STFM Super Pack .....	£295
520 STFM Explorer Pack .....	£225
520 STFM and Mono Monitor .....	£324
1040 STFM with TV Modulator .....	£339
1040 STFM with Mono Monitor .....	£438
1040 STFM with Super Pack Software .....	£399
1040 STFM with VIP Professional and Microsoft Write .....	£379
1040 STFM with VIP Professional, Microsoft Write and Super Pack Software .....	£449

Please Note Super Pack Software Includes Over £450 Worth Of Games And Accessories.

## PRINTERS INC VAT

Star LC10 .....	£190
Star LC 10 Colour .....	£239
Star LC 24-10 .....	£349
Star NB 24-10 .....	Call
Star LC-10 C CBM .....	£179
Star LC-10 C Colour CBM .....	£299
Epson LX 800 Plus VAT .....	£149
Epson LQ 500 .....	£305
Panasonic KXP 1081 .....	£169
Panasonic KXP 1124 (24 pin) .....	£299
Citizen QP40 Colour (24 pin) .....	£575

## AMIGA ADD-ONS

A501 Ram Expansion Kit 512K .....	£129
Vortex 40MB Hard Disk .....	£573
Joysticks .....	From £6.95
Mouse Mat .....	£4.95
Amiga Dust Cover .....	£5.95
TV Modulator .....	£24.95

## AMIGA SECOND DRIVE

Cumana Cax 354 3 1/2" .....	£99
MDC 30 3 1/2" .....	£85
AF 880 3 1/2" .....	£85

## LAZERS

Star Lazer 8 .....	£1695
Citizen 110 Plus .....	Call
Epson LQ3500 .....	Call

## CBM 64 DRIVES

CBM 1581 3 1/2" DRIVE .....	£145
CBM 1541 5 1/4" DRIVE .....	£145

## MONITORS

CBM 1084S .....	£229
CBM 1901 .....	£149
(IBM, CGA, Compatible)	
Philips 8833 .....	£239
CBM 1900 Mono .....	£129
Atari 124 Mono .....	£129

**AMIGA A500 with TV Modulator, Mouse, Manuals, Utilities Disk and Workbench £349.00 inc VAT**

**AMIGA A500 MEGALAND PACK £399.00 inc VAT**

You choose any ten of the following games:  
**International Soccer, Winter Olympiad, Backlash, Zynaps, Eliminator, Demolition, Grid Start, Las Vegas, Skyfighter, Star Goose, Quadralien, Hostages, Purple Saturn Day, Spitting Image, Platoon, Wizball, Spritz Paint Package, Warlock Quest, Custodian, Mercenary, Power Play, Return of the Jedi.**  
TV Modulator, Mouse, Joystick, Workbench, and Utilities Also Included

**AMIGA B2000 - With 1084S Colour Monitor or Philips 8833 with AUTHORISED AMIGA 2000 CENTRE**

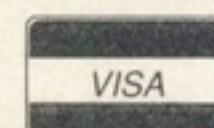
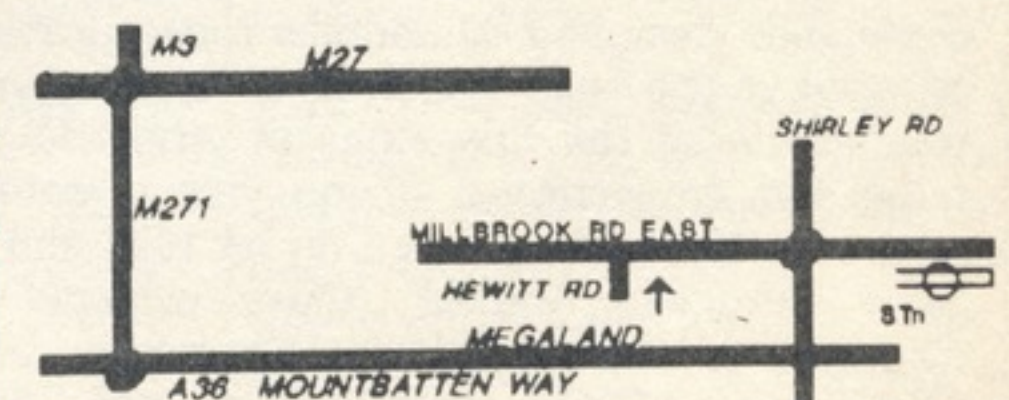
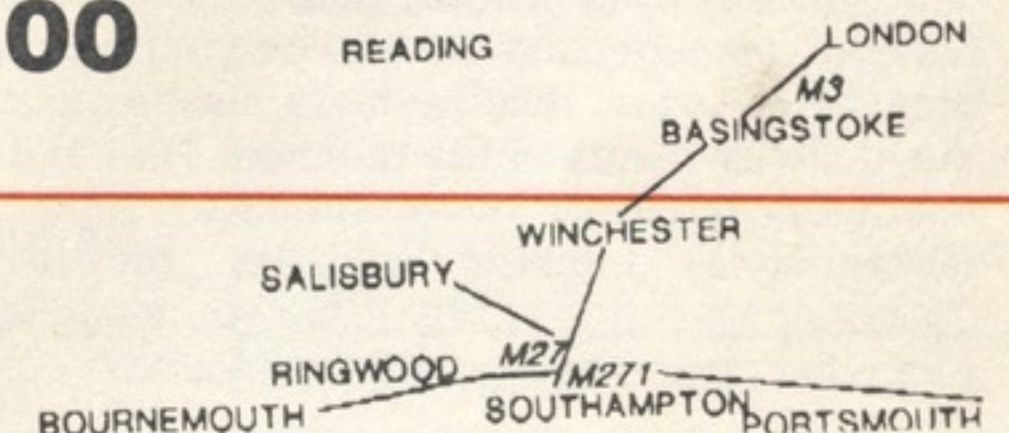
XT Bridge Board    Mouse                    **1599.00 inc VAT**  
20 MB Hard Disk    Utilities  
Workbench            Manuals

All Stock UK Products

The above machine can be installed to your specifications - Enquire on ordering

## AMIGA A500 AIR MILES PACK

Amiga Computer, TV Modulator, Nebulus, Spritz, Roger Rabbit, Star Ray  
**£499.00**



All Offers Subject To Availability.  
Offers Subject To Change Without Notice.  
Access or Barclaycard Welcome.  
Callers Welcome To Our Showroom in Southampton.

# MEGALAND →

**42-44 MILLBROOK ROAD EAST SOUTHAMPTON**





# SATELLITES

## EXHIBITION

The mass transmission of electronic data has been with us since the early eighties, when the Oracle and Ceefax teletext systems began to deliver an ever increasing diversity of news and information into the home.

Teletext used the spare bandwidth, the Vertical Blanking Interval between TV frames, to store data for handset recall. VHF radio transmissions also carried a range of data from finance to machine code. Even Radio 4 got into the act - remember Barry Norman's *Chip Shop* of 83/84 broadcasting BBC and Spectrum code? Somewhat more upmarket, FM transmissions, on 57 and 69KHz, still carry City updates to desktop receivers and dedicated hand-held units.

### Above and beyond

Although pioneering the principle of data broadcasting - one-way, point to multipoint communication or sending data by radio from one centre to many receivers - these early media have been superseded by the major advances in computing and communications set for the nineties.

The trend towards distributed computing, resting on large, fast intelligent networks, the sophistication of SNA and X.25 protocols, cheap bandwidths and fibre optics, is already in



• CSR's Pandata 1 receiver and satellite modem - opening your office to the airwaves?



• Gilat's U-Cord system - a receive-only terminal for data communications able to incorporate different satellites and antenna diameters and capable of handling up to 112Kb per second of data. Prices for this remote terminal start at £800.

# BEAM ME DOWN...

*Data broadcasting may be a fledgling industry, but there are big plans afoot and they include you. Andy Storer visited the recent Data Broadcast Expo, found the sky's not the limit and returned looking more dishy than usual.*

evidence to some extent in the current terrestrial TV transmissions of private companies. Corporate broadcasting by hotel groups, travel agents, betting shops, chain stores and banks is now firmly entrenched.

In addition, there are some 40 subscription services available in Europe, mainly featuring the quotes, reporting and analysis that drives the world of finance, along with retail and betting. The U.K. has more traffic than the rest of Europe put together with 26,000 reception sites throughout the country.

From a company perspective, the advantages are clear - simultaneous and reliable updating of data across a wide geographical area, centralised network management and a uniform response time for all users. But the main disadvantage is the one-way nature of the medium. That and the relatively primitive data formats. After all, teletext-style graphics, whether they're on Ceefax or Micronet, hardly leave you staggering. And what about the sound? What sound?

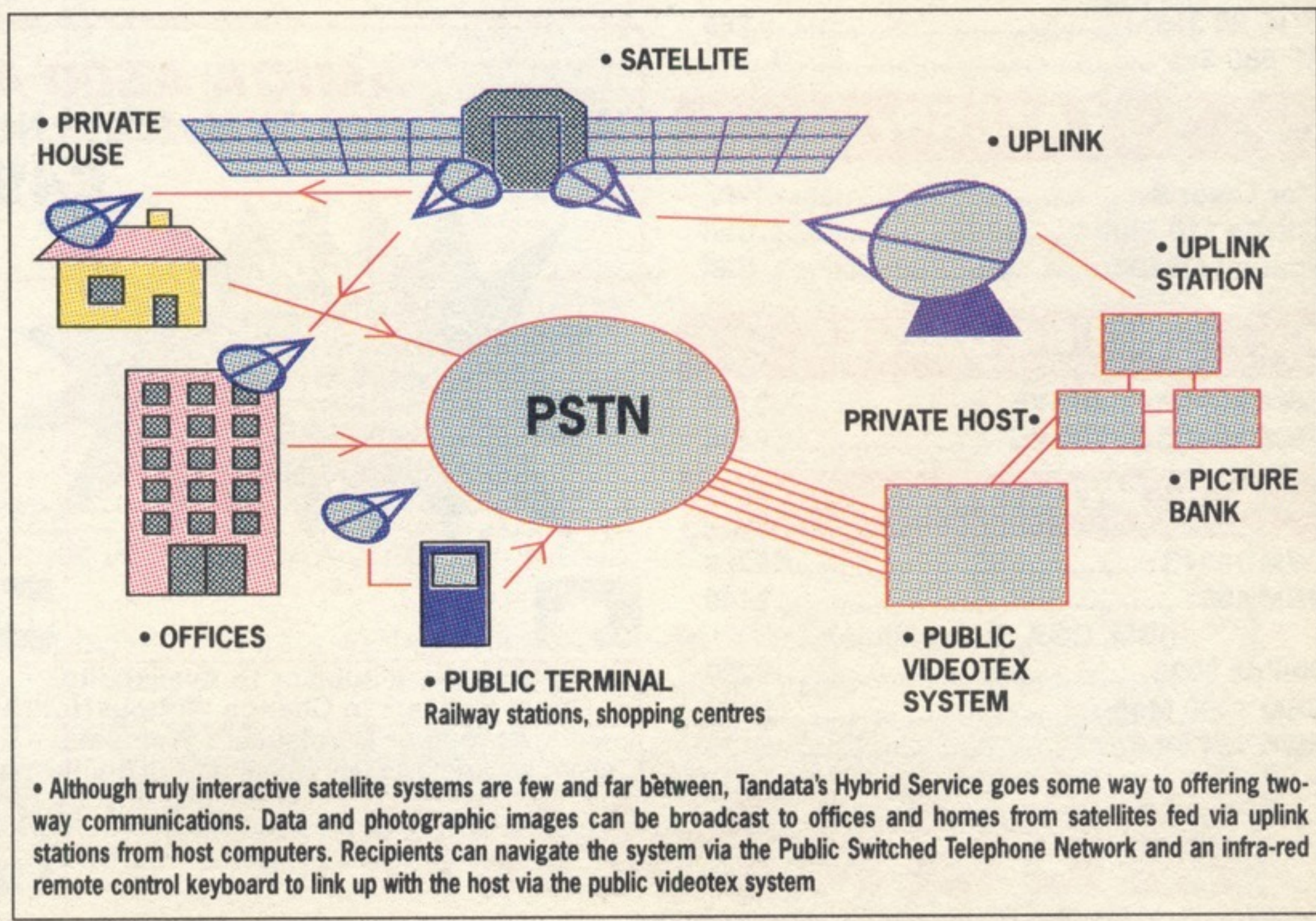
### Lighting up the skies

Data Broadcast 89 was an exhibition and conference designed to address these problems by paving the way for new standards. What emerged were the first signs of terrestrial and radio data transmission giving way to satellite networks. No doubt spurred on by 1992 and the 'New European Market', these systems are designed to intergrate fully interactive voice, data, fax, video conferencing and video broadcasting across networked geostationary satellites - the D-MAC standard nearly all suppliers want to see employed will allow 2Mbytes per second of data to be combined with video on a single channel. To date, trans-

European data broadcasts are largely confined to finance and news but next on the agenda will be training and education. Perhaps most significant of all are the plans for electronic publishing.

With the likes of Murdoch and Maxwell seemingly owning half the sky, it's only a matter of time before the broadcast newspaper hits your home. The idea being that you subscribe to the type of news you require and download the

material to your TV receiver for printout. Beaming tits and bums over Europe may not seem a fitting application for hi-tech advances but it's a probability that's already paralleled in conventional satellite broadcasting. Hopefully, it'll only be a matter of time before tabloid transmissions have to compete with high brow. Until then, suspend your disbelief, watch the skies and stay tuned ●







0787 - 881998  
**AMIGA CENTRE**  
 ART/GRAPHICS/ANIMATION  
 DESK TOP PUBLISHING  
 DESK TOP VIDEO  
 COMMUNICATIONS  
 MUSIC/MIDI  
 TRAINING/INSTALLATION

## TOP QUALITY AMIGA HARD DRIVE SYSTEMS

(ALL UNITS CONTAIN FAST 11ms QUANTUM PRO-DRIVE)

A500 UNITS INC. STYLISH CASE/POWER SUPPLY/FAN ★ ★ FREE ★ ★ 2MB RAM BOARD (OK)

A2000 INC. DRIVE/CONTROLLER ON ONE CARD. (OPTIONAL 2MB RAM BOARD)  
 (POWERED FROM AMIGA BUS)

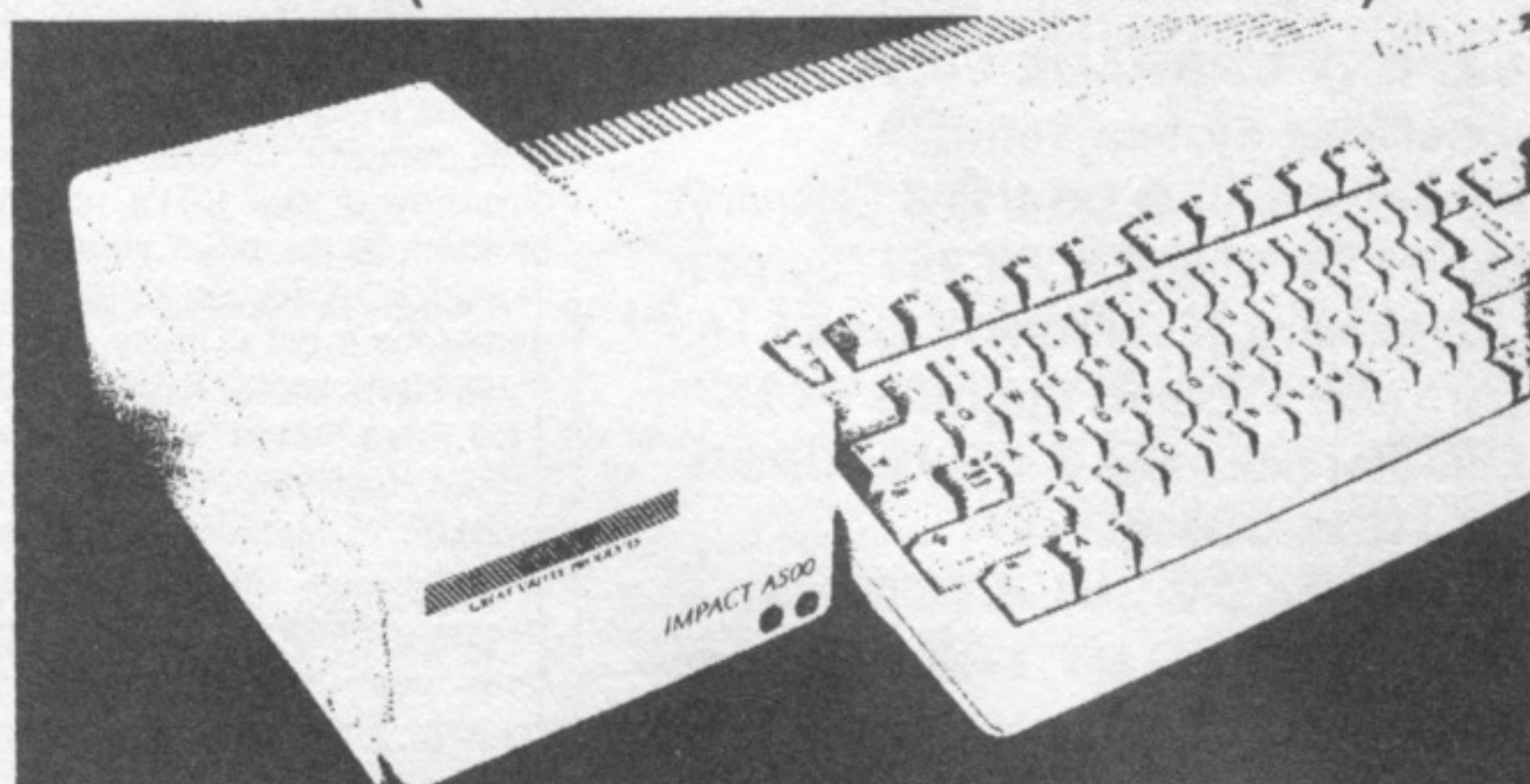
A500: 40MB - £680  
 A2000: 40MB - £630 80MB - £850

LOW COST UPGRADES AVAILABLE.  
 TRADE ENQUIRIES WELCOME.

ALL PRICES INCLUDE VAT.  
 GOODS/PRICES SUBJECT TO AVAILABILITY

73 KEMPSON DRIVE  
 GREAT CORNARD  
 SUFFOLK. CO10 0YE

TEL: 0787 881998  
 FAX: 0787 881226



★ ★ NEW COLCHESTER STORE SOON ★ ★

### WHY PAY MORE FOR COMPUTER MANUALS? OR SUPPLIES, OR SELF TEACH TRAINING SOFTWARE?

Join the Computer Users Book Club and save up to 50% on publishers' prices on over 160 (and increasing) of the latest titles on all subjects for:- Amiga, Atari, Acorn, Archimedes, Apple Mac, IBM PC Compatible, IBM PS2, Amstrad PCW as well as a terrific range of self teach software and computer supplies

#### FREE MEMBERSHIP

When you join you receive a full colour catalogue every quarter containing a review and picture of each item

#### ONLY 3 TITLES IN YOUR FIRST YEAR

You need only agree to purchase 3 catalogue titles in your first year, (Min 1 year membership) which can be as little as £15 (as prices range from £5 to £50)

#### EASY CANCELLATION

After your **first** year you need only tell us and we will cancel your membership immediately. Alternatively we will contact you if we don't hear from you in any 6 month period. **REMEMBER** though that the longer you are a member the more **valuable** your membership becomes through special offers and purchase bonus points.

#### NO UNWANTED GOODS

We will not send you anything you have not expressly ordered (except for a free gift of course!), and you see the goods, before you actually pay for them!

#### JOIN NOW

Call 0495 292169 or write in for details of special offers for new members and receive a copy of our latest catalogue!  
**Free gift with your first order!**



COMPUTER USERS BOOK CLUB  
 7, BLAINA ENTERPRISE CENTRE  
 RISING SUN INDUSTRIAL ESTATE  
 BLAINA, GWENT. NP3 7JW  
 TEL: 0495 292169  
 FAX: 0495 292404

WHO SAID WE WERE JUST ANOTHER BOOK CLUB !!

## H T COMPUTERS

### COMMODORE PC's

PC1 MONO.....	£300
PC1 COLOUR.....	£400
PC10 III SD MD.....	£499
PC10 III SD CD.....	£655
PC10 III SD EGA.....	£799
PC10 III DD MD.....	£569
PC10 III DD CD.....	£729
PC10 III DD EGA.....	£879
PC20 III HD MD.....	£765
PC20 III HD CD.....	£909
PC20 III HD EGA.....	£1055
PC40 III SD VGA MONO.....	£1199
PC40 III SD VGA COL.....	£1450
PC40 III HD VGA MONO.....	£1529

PCW 8256.....	£319.00
PCW 8512.....	£389.00
PCW 9512.....	£439.00

### MONO COLOUR EGA

1512SD.....	£369	£449	--
1512DD.....	£449	£549	--
1640SD.....	£469	£549	£645
1640DD.....	£529	£619	£725
1640HD.....	£699	£799	£889

### VGA (mono)VGA (12")VGA (14")

2086SD.....	£549	£679	£890
2086HD.....	£869	£799	£845
2286DD.....	£919	£899	£1189
2286HD.....	£1249	£1419	£1599

### PORTABLES

#### ZENITH - THE BEST

ZENITH SUPERSPORT 184.....	£1065
ZENITH 184 WITH 20mB HD.....	£1998
ZENITH SUPERSPORT 286.....	£2415
ZENITH 286 WITH 40mB HD.....	£3019
CAMBRIDGE Z88.....	£199
Z88 ALL IN ONE PACK.....	£249

#### EPSON Quality + Name

EPSON LX800.....	£165
EPSON FX850.....	£399
EPSON FX1050.....	£499

#### 24 PIN - For Real Quality

EPSON LQ500.....	£339
EPSON LQ850.....	£546
EPSON LQ2550 (400 CPS!!!).....	£699
EPSON GQ3500 1125.....	£1199
HP LASERJET II.....	£1599
QUME - POSTSCRIPT	

#### HOME EQUIPMENT

AMIGA 500 + MOD + GAMES.....	£349
AMIGA + MONITOR + GAMES.....	£549
ATARI 520STFM.....	£249
ATARI 1040STFM.....	£399

#### THE NEW BBC ARCHIMEDES

BBC A3000.....	£599
COLOUR MONITOR FOR A3000.....	£209
BBC MASTER 128.....	£399
SPECTRUM + AMSTRAD.....	£POA
HOME MICROS.....	TELEPHONE



H T COMPUTERS LTD  
 1 Arlington Road, Petersham,  
 Richmond, Surrey. Tel: 01 948 1681





# EXPERT-EASE

With the release of the Trilogic Expert cartridge, Trilogic produced the programming tool for any C64 machine code programmer. Now the ultimate Expert Upgrade is here. Rik Haynes single-steps through its Assembly Line...

**EXPERT UPGRADE V4.1R**  
(Operating System Software Enhancement) ● C64/128 (Requires Expert Cartridge) ● £9.99+75p post and packing (disk only)/Expert Cartridge + Expert Upgrade V4.1R £39.99 (disk only) ● DEVELOPED BY NOW COMPUTER SYSTEMS/DV-XUL SYSTEMS ● PUBLISHED BY TRILOGIC on 0274 691115

Quickly dodging the Expert cartridge's dubious "back-up" facilities, no one can deny its excellence as a C64 programming

development tool. With the cartridge in action, you can freeze any program, use Expert's machine code monitor to examine and change anything currently in the C64's memory, and restart the program at the point you froze it. Add to this the capability to display all the sprites in memory and numerous other utilities, and you should begin to realise how useful Expert can be.

However, there was a price to pay for these superb features, namely having to wipe your program in memory if you wanted to reprogram the Expert's utilities. This is where Expert Upgrade V4.1R comes in, as it allows you to swap from one Expert function to another while keeping your current program completely intact.

**Features**

As well as being a completely menu-driven modular operating system, EU V4.1R also offers

numerous enhancements to the standard Expert OS software, such as option-packed real-time sprite, character and picture editors, and an improved machine code monitor with both bi-directional scrolling and function key commands, and – probably more importantly – full unlisted opcode support. Plus all the Expert features found before: infinite lives, sprite killer, disk utilities, etc.

**User Interface**

Easy as pie to use, perhaps the most significant enhancement included in EU V4.1R is the bidirectional scrolling in the machine code monitor – users of previous Experts will know what we mean!

**Documentation**

The 30-page manual may feel a tacky photocopied affair, but then again the whole package costs only a tenner.

Nevertheless, the manual incorporates all the operating procedures and technical information you'll require, and also contains a table of all the C64's 6510 opcodes, including all the unlisted ones.

**Verdict**

Not much to say, except that if you're a disk-owning C64 machine code programmer you must have the Expert cartridge and Upgrade V4.1R. Nothing else comes close... we just wish Expert was available for the Amiga!

★ ★ ★ ★ ★

HIGHLIGHTS	DRAWBACKS
• A MUST for all C64 coders	• Why wasn't it released earlier!

ATARI®

ACCESS/VISA CARD HOTLINE  
(0772) 452414

**HOMESoft (UK)**  
Software and Hardware

ALMOST PROBABLY THE CHEAPEST MAIL ORDER/RETAILER IN EUROPE

**NORTHWEST LEADING DEALER**

AMIGA

**SUMMER MADNESS SALE**

<b>PHILIPS CM8833</b> MED. RES. MONITOR £235.00  Free Lead with both  <b>COMMODORE 1084S</b> MED. RES. MONITOR £245.00	<b>AMIGA 500 FREE MODULATOR, MOUSE ART PACKAGE PLUS MOUSE BRACKET 50 CAP DISK BOX MOUSE MAT 10 DD/DS DISKS JOYSTICK</b> ONLY £385.00	<b>AMIGA 500 FREE MODULATOR MOUSE ART PACKAGE ** WITH** * 4096 COLORS * * CD QUALITY * STEREO SOUND</b> ONLY £355.00
<b>ATARI 1040 STF</b> ONLY £445.00 WITH SOFTWARE	<b>ATARI 520STFM POWER PACK</b> ONLY £345.00	<b>ATARI 520STFM EXPLORA PACK</b> ONLY £265.00
Slimline 3.5" 1 Mb Drive £89.00 Either for ST or Amiga Enable or Disable Switch	<b>SEE US AT THE ATARI SHOW ALEXANDRA PALACE</b>	<b>Books for Amiga/Atari by Compute Fully Stocked</b>
<b>Cumana 354 3.5" 1Mb Drive</b> £94.00	<b>Atari SM124 Hi Res. Black &amp; White Monitor</b> £100.00	<b>Commodore A501 Expansion with Clock</b> £130.00

**JOYSTICKS & BLANK DISKS**

COMPETITION PRO EXTRA.....11.20  
COMPETITION PRO 5000.....9.50  
CHEETAH 125+ .....5.20  
CHEETAH MACH 1+.....8.95  
CHEETAH STARFIGHTER .....9.55  
QUICKSHOT II PLUS .....6.50  
QUICKSHOT II TURBO .....8.95  
KONIX NAVIGATOR .....11.50  
KONIX SPEEDKING .....8.90  
SPEEDKING + AUTOFIRE .....9.20

>>>>>>>BULK 3.5" DISKS<<<<<<<<

KAO HIGH DENSITY DISKS - 10.....9.50  
KAO HIGH DENSITY DISKS - 50.....45.00  
KAO HIGH DENSITY DISKS - 100.....80.00

>>>>>>>>>>>>>><<<<<<<<<<<<

MOUSE MAT .....4.50  
100 CAP 3.5" LOCKABLE BOX .....6.50  
200 CAP 3.5" POSSO BOX .....14.90  
FOUR PLAYER ADAPTOR (AMIGA).....3.50  
TWIN JOYSTICK EXTENSION LEAD.....4.50  
3.5" HEAD CLEANER .....2.90  
MOUSE BRACKET.....3.50

★ ALL A500'S COME COMPLETE WITH BASIC AND TUTORIAL DISKS ADD £10.00 FOR NEXT DAY DELIVERY

**16 BIT LATEST RELEASES**

TITLE	AMIGA	ATARI ST
POPULOUS.....	16.80	16.80
ARCHIPELAGOS.....	15.10	15.10
LORDS of the RISING SUN.....	18.10	18.10
BLOOD MONEY.....	15.10	15.10
FALCON.....	17.20	14.30
STOS.....	18.50	18.50
BARBARIAN II.....	12.10	12.10
VINDICATORS.....	13.90	12.10
KICK OFF.....	12.10	12.10
TV SPORTS FOOTBALL.....	18.10	---
SUPER HANG ON.....	15.10	---
TEST DRIVE II the duel.....	18.10	---
SWORD of SODAN.....	15.10	---
AIRBORNE RANGER.....	15.10	15.10
BALANCE of POWER 1990.....	15.10	15.10
MICROPROSE SOCCER.....	15.10	15.10
SILK WORM.....	12.10	12.10
BIO CHALLENGE.....	15.10	15.10
DRAGON NINJA.....	16.10	16.10
MILLENIUM 2.2.....	16.10	16.10
RING SIDE.....	15.10	15.10
3D POOL.....	15.10	15.10
ARV HONDA.....	15.10	15.10
WEIRD DREAMS.....	15.10	15.10
FORGOTTEN WORLDS.....	13.90	13.90
WICKED.....	13.90	13.90
FALCON MISSION DISKS.....	13.10	13.10
ROBOCOP.....	16.10	16.10
KULT.....	15.10	15.10
HAWKEYE.....	12.10	12.10
GIANTS.....	18.10	18.10
NAVY MOVES.....	16.80	13.10

For the First and Last Word in Software Come to Homesoft. Every New & Old Title Always Carried in Stock. Phone our Hotline for more information

GOODS DESPATCHED WITHIN 12 HOURS SUBJECT TO AVAILABILITY

All New Releases will be despatched on official date of release

CHEQUES, P.O.'s TO BE MADE PAYABLE TO:  
HOMESoft U.K.  
UNIT 13, CENTURION WAY INDUSTRIAL ESTATE,  
FARINGTON, LEYLAND, PRESTON,  
LANCASHIRE. PR5 2GU  
TELEPHONE: (0772) 452414

FOR NEW RELEASES AND ITEMS NOT LISTED PLEASE PHONE US TODAY. NEW TITLES WILL BE DESPATCHED ON CONFIRMED DATE OF RELEASE. GOODS SUBJECT TO AVAILABILITY AND CHANGE WITHOUT PRIOR NOTICE. OFFER ENDS 31st JULY 1989. HOMESoft (UK) CARES FOR ITS CUSTOMERS



# Ladbroke Computing International



*"The Country's Leading Atari Specialist"*



33 Ormskirk Road, Preston, PR1 2QP.  
Open Mon. - Sat. 10 am to 5:30 pm  
Dealer enquiries welcome.

**YOU CAN'T AFFORD TO SHOP ELSEWHERE LOOK AT THESE PRICES (INC. VAT)**

This company has given years of full support to Atari users from their premises at 33 Ormskirk Road Preston. Now from their Mail Order premises they can offer this "second to none" service to users countrywide. All Software/Hardware is ex-stock and fully tested prior to purchase to ensure that returned goods are now a thing of the past. All hardware is supported by our on site engineers so that quick turn around on all repairs is guaranteed. There are no hidden extras WYSIWYG. ALL PRICES INCLUDE VAT AND DELIVERY on orders over £100 (Mainland UK) next day delivery +£5. All prices are correct at time of going to press and are subject to change without prior notice. Phone for latest prices, information advice we are always happy to help.

### Midistudio £99.99

"will give Steinberg's Pro 24 a run for it's money"  
ST WORLD March 89

Midistudio is an attractively priced 20 track Midi Sequencing package. It can record up to 682 bars per phrase(pattern) on up to 100 phrases. Any phrase can be placed on any track. Tracks can be soloed and muted and tracks and phrases can be named. Program numbers can be displayed in a variety of ways including 0-127, 1-128, in banks from a11-b88 or a01-b64. The desk features sliders to set relative volumes on each track and you can even do a mix on the fly. Midistudio also has a clock to display the length of the last playback. Midistudio has step time note edit functions including copy, split, merge, append, and transpose, velocity editing(including a humanize function), full controller editing, quantizing and a buffer which will store a copy of a phrase for recall after destructive editing. Demo disk £3.99

### Software

At Least 20% discount off all 16 bit games software.

#### Minimum Discount

E.G.	RRP	Our Price
	£19.99	£15.99
	£24.99	£19.99
	£29.99	£23.99

#### Maximum Discount

£19.99	£6.99
£24.99	£9.99

Send SAE for full software catalogue.

Join our excellent software club / magazine and guarantee at least 15% discount off any software and our free disk based magazine which will include reviews, hints, PD Software. All this for only 1 payment of £25 per year.

**Phone for best prices**

Free delivery (Mainland UK only) on orders over £40, for orders under £40 add £2.50.

### Quality Scanning

SCAN AT UP TO 1000 DPI FOR ONLY £89.99  
Demonstration disk £3.99 (£2.00 redeemable)

The Image Scanner can provide high quality graphics digitising for a tenth of the cost of other digitisers. This simple unit plugs into the cartridge port of the ST and accepts scanned information via optical cables which fix easily to the head of any printer. Scanned images can be saved in raw data, Degas and Neochrome formats. The Software supports scanning resolutions of 75,150,216,300,360 and 1000 dots per inch horizontally. An example disk is available which contains a slide show of images scanned with this product. The cost of this disk is £3.99, £2.00 of which is redeemable on purchase of a scanner.

### Printers

Star LC 10	£189.99
Star LC 10 Colour	£249.99
Star LC 24/10	£339.99
Epson LQ 500	£359.99
Citizen 120 D	£139.99
SLM 804 Laser	£1299

All printers come complete with Parallel cable.

### Hard drives and Interfaces

Vortex 40MB(ST & Amiga)	£499.99
Megafile 30	£474.99
Megafile 60	£619.99
Supra 30MB	£475
Triangle & others	phone
Interface	£99.99

Our Hard drive interface includes DMA, clock, works with Atari, Supra. Uses SCSI drives. 100% compatibility.

### Cumana Disk drives

Cumana 1Mg Drive(ST)	£89.99
Cumana internal 1Mg Drive(ST) (kit or fitted)	£89.99
Amiga 1 Mg Drive, disable switch & through port	£79.99
A/B boot switch (fitted)(ST)	£24.99
Triangle drives & others	phone

### Peripherals & Dust Covers

Pro Draw Tablet	phone	Computers	£3.99
CRP Tablets A4	£414	Monitors	£4.99
	£818	Disk Drives	£2.99
Hawk scanner	£1250	Hard Disks	£4.99
Atari Traker ball(ST)	£24.99	Printers	£7.99
PRO 5000 joystick	£8.99	Others	phone

Phone for prices on all SIGMA products such as Colibri hand scanner with or without OCR, Signum 2, Augur OCR.

### Monitors

SM 124 Monochrome Monitor.	£109.99
SC 1224 Colour Monitor.	£299.99
Phillips 8833 Colour Monitor.	£229.99
Phillips 8852 Colour Monitor.	£259.99
Phillips 15" Remote, Scart, Tv with 40 tuner presets.	£229.99

Monitors, deduct £10 if bought with Computer phone for Tv's. All monitors come with scart to ST/Amiga etc.

### Quality Disks

All our disks are top quality Sony or Maxcell products, not cheap imports. We buy bulk and pass the saving onto the customer. All disks carry an unconditional lifetime guarantee.

Quantity	3.5" D/S	5.25" D/S	Q/D	96 TPI
10	£9.99			£6.50
10+box	£10.99			£7.50
100	£95			£60
100 + lockable box	£103			£65

## Service Centre

### REPAIRS

Our Atari trained engineers can repair all hardware in minimum time at competitive prices. We can arrange Pickup for prompt delivery to ourselves for £11.50. Next day return courier delivery £8.00.

### UPGRADES EX-STOCK

1 Mg STM (fitted)	£124.99	Upgrade board (Unpopulated)(fitted)	£60
1 Mg STF (kit)	£99.99	Board + 1 Mg upgrade(fitted)	£159.99
STFM upgrade fitting service	£25	Board + 2.5 Mg upgrade(fitted)	£399.99

Please check machine configuration before ordering. All fitting prices quoted for machines not previously tampered with. The upgrade board can be progressively upgraded to a maximum of 2.5 MB. Due to the complexity of the installation we must install and upgrade the board for you. All upgrades and repairs carry our 3 months parts and labour guarantee. Pre 1988 machines can only be upgraded to 2 MB.

## This Months Special offers

### HARDWARE

PRO 5000 Joystick	£8.99	The competition PRO 5000 is one of the best quality joysticks on the market offering precise operation with microswitches.			
CPC Joystick	£9.99	As PRO 5000but with rapid fire.			
Metal Mon stands	£19.99 & £24.99				
Data Switches	£24.99	Spike protector	£17.99	Mouse/joystick ext	£5.99
DCOM Auto fire Joystick	£9.99	High quality Antistatic Mouse Mats			£5.99

### ST SOFTWARE

STAR TREK	£11.99	OUTRUN	£9.99	BLACKLAMP	£11.99
ACADEMY & TAU CETI	£14.99	BARBARIAN	£14.99	BUGGY BOY	£11.99
ECO	£11.99	TNT	£11.99	WIZARD WARZ	£9.99

## New Low Prices Computer Systems and Packs New Low Prices

### 520 STFM Explorer Pack £269.99

Includes Atari 520 STFM with 1/2 Mg Memory, 1 Mg drive and mouse. Includes tutorial disk.

### Amiga A500 Pack £369.99

Includes best selling Amiga A500 computer with 1/2 Mg memory 1 Mg drive, mouse and Tenstar software pack worth £200.

### DTP Pack 1 £phone

This pack consists of Mega 2, external 3.5" drive, SLM 804 Laser printer, Mono monitor, DTP software, 90 days on site maintenance.

### 520 STFM Super Pack £334.99

Includes Atari 520 STFM with 1/2 Mg Memory, 1 Mg drive, mouse, joystick and a software pack including organiser software and 21 top quality games.

### Atari Mega ST 1+Mono Mon £599.99

The new Mega ST 1 includes separate keyboard and cpu, Blitter chip, clock, 1 MB RAM, mouse and a business software pack including database, word processor, spreadsheet and BASIC software.

### DTP Pack 2 £phone

This pack consists of Mega 4, Megafile 30 hard drive, SLM 804 Laser printer, Mono monitor, DTP software and 90 days on site maintenance.

### 520 STFM Power Pack £349.99

Includes Atari 520 STFM with 1/2 Mg Memory, 1 Mg drive, mouse, joystick and software pack consisting of organiser software First BASIC, First Music and a selection of 20 top quality games.

### Atari Mega ST 2+Mono Mon £849

The Mega ST 2 includes separate keyboard and cpu, Blitter chip, 2 MB RAM and mouse. The Mega ST 2 also includes a battery backed clock.

### Atari PC 4 £1655

The PC 4 has an 80286 processor running at 8 or 12 MHz, 1 MB of RAM, 60 MB hard drive, 5 AT and 1 XT expansion slots. For Mono monitor add £100. Phone for others.

### 1040 STFM Super Pack £449.99

Includes Atari 1040 STFM with 1 Mg Memory and drive and a choice of software packs which include a business pack with database, word processing, spreadsheet and BASIC software, a Midi pack with Pro 12, and a games pack with 21 top quality games.

### Atari Mega ST 4+Mono Mon £1099

The Mega ST 4 includes separate keyboard and cpu, Blitter chip, 4 MB RAM and mouse. The Mega ST 4 also includes a battery backed clock.

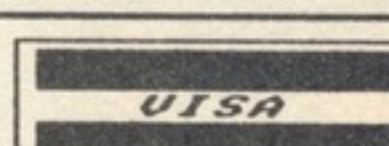
### Atari PC 5 £2690

The PC 5 has an 80386 processor running at 16 MHz, math coprocessor socket, 64K cache memory, 2 MB RAM, 60 MB hard disk with high performance controller, 4 AT and 1 XT slots. For Mono monitor add £100.



**(0772) 203166 or 21474**

Ladbroke Computing International is a trading name of Walton Marketing Limited.





# ATARI ST and AMIGA

## Sixteen Bit Superdeals from the Sixteen Bit Specialists !

**CUSTOMERS PLEASE NOTE!** When comparing prices remember ours include fast delivery by courier.

**NEW !!**

**520 STFM Power Pack**  
**£359.00**  
*Inc. VAT and Next Day Delivery*

**Power Pack includes:**

- ★ 520 STFM 512K Keyboard with Built-in 1 Megabyte disk drive and TV Modulator
- ★ Over £550 worth of games software, including OutRun, Gauntlet 2, R-Type, Space Harrier, Super HangOn and 16 more Top Games
- ★ Organiser Business Software including WORDPROCESSOR, SPREADSHEET and DATABASE.
- ★ First BASIC and First Music Utility Software
- ★ FREE JOYSTICK
- ★ All leads, manuals PLUS MOUSE and free mains plug!

**REMEMBER!** Many ST's do not come with BASIC - ours come with ST BASIC REV D by Metacomco.

**Amiga A500 System 1**  
**£365.00**  
*Inc VAT and Next Day Delivery*

**NOW INCLUDES WORKBENCH 1.3**

**System 1 includes:**

- ★ Amiga A500 512K Keyboard with Built-in 1 Megabyte disk drive.
- ★ Free TV modulator worth £24.99 allowing you to use the Amiga with a normal TV.
- ★ Amiga BASIC, Amiga EXTRAS 1.3, Workbench 1.3 PLUS the Amiga Step by Step Tutorial.
- ★ All leads, manuals PLUS MOUSE and mains plug!

**520 STFM SUPER PACK**  
**£329.00**

Includes everything in the 520STFM Power Pack, but with £450 worth of Games and includes Metacomco Basic

**Amiga A500 System 2**  
**£385.00**

- ★ Amiga A500 System 1 PLUS over £280.00 worth of software comprising 10 games, PLUS either SPRITZ or PHOTON PAINT GRAPHICS PACKAGE.

**1040STFM Super Pack**  
**£439.00**

*Includes everything in the Atari 520 STFM Super Pack but with the 1 megabyte memory 1040 STFM Keyboard*

**Amiga A500 System 4**  
**WITH 500 FREE AIR MILES!**  
**£449.00**

**NEW !**

includes everything in our Amiga System 1 package PLUS SPRITZ Graphics Package, disk storage wallet for 25 disks, Who Framed Roger Rabbit, Nebulus, Starray. PLUS 10 other FREE games worth £230.00 PLUS 500 FREE AIR MILES, enough for a return trip to PARIS, AMSTERDAM OR BRUSSELS!

**1040STFM Business Pack**  
**£439.00**

**Business Pack includes:**

- ★ Atari 1040STFM Keyboard with 1 meg memory and 1 meg built-in disk drive plus TV modulator.
- ★ £385 worth of Business Software including MICROSOFT WRITE word processor (£150), SUPERBASE PERSONAL Database (£60) and VIP PROFESSIONAL Lotus 123 Spreadsheet clone (£150). Metacomco Basic (£25.00)
- ★ All leads, manuals and mouse.

**AMIGA 1 MEG!**  
**£499.00**

Announcing the new Amiga 1 meg-an A500 system 1 with fitted 1 megabyte memory expansion and clock card PLUS TV Modulator AND DRAGON'S LAIR a six disk 1 meg megagame!

**MEGA 1 BUSINESS PACK**  
**£529.00**

**Features:**

- ★ Separate Keyboard and System Unit
- ★ All the Software included with 1040 STFM Business Pack.
- ★ Blitter chip installed for faster graphics

*Inc SM124 Mono Monitor..... £628.00*

**AMIGA 1 MEG +**  
**£519.00**

Our Amiga 1 meg + also includes the £230 worth of games software normally given with our A500 System 2 Games Pack.

**ACCESSORIES**

Quickshot II Turbo Joystick.....£9.95	Branded Memorex 3.5" DS DD Disks
Competition Pro 5000 Joystick ....£13.95	Box of 10.....£13.95
Competition Pro with Autofire .....£14.95	Memorex Disk Box
Konix Speedking Joystick .....£11.95	For 40 3.5" Disks .....£8.95
Red Mouse Mat with Amiga logo...£6.95	Amiga A501 1 Meg Expansion ..£134.99
Plain blue Mouse Mat .....£5.45	Amiga A501 + Dragon's Lair.....£169.99

**EXTERNAL DISK DRIVES**

Atari SF314 1 Megabyte.....	£139.00
Amiga A1010 1 Megabyte .....	£139.00
Cumana 1 Megabyte Atari or Amiga .....	£99.95
NEC 1 Megabyte Amiga.....	£89.95
Atari Megafile 30 Hard Disk.....	£459.00

**PRINTERS**

Star LC24-10 24 pin incl. lead ST/Amiga .....	£339.00
Star LC10 including interface lead for ST/Amiga.....	£199.00
Star LC10 colour including interface lead for ST/Amiga.....	£249.00
Citizen 120D including interface lead for ST/Amiga .....	£159.00

**SEIKOSHA 80 COLUMN PRINTERS - AMAZING PRICES**

Seikosha 9 pin NLQ including interface lead for ST/Amiga.....	£139.00
Seikosha 24 pin LQ including interface lead for ST/Amiga .....	£279.00

**MONITORS**

Commodore Amiga A1084 Stereo colour Monitor inc lead .....	£269.00
Atari SC1224 Colour Monitor inc lead .....	£259.00
Atari SM124 Mono Monitor including lead.....	£104.00
Philips CM8833 stereo colour monitor inc. lead for ST or Amiga.....	£249.00



**CREDIT CARD ORDERLINE ☎ 0908 78008 (Mon - Sat 9am - 6pm)**  
To order either call the orderline above with your Credit Card details OR make a cheque or P.O. payable to Digicom Computer Services and send it with your order to the address below. Callers are also most welcome at the address below



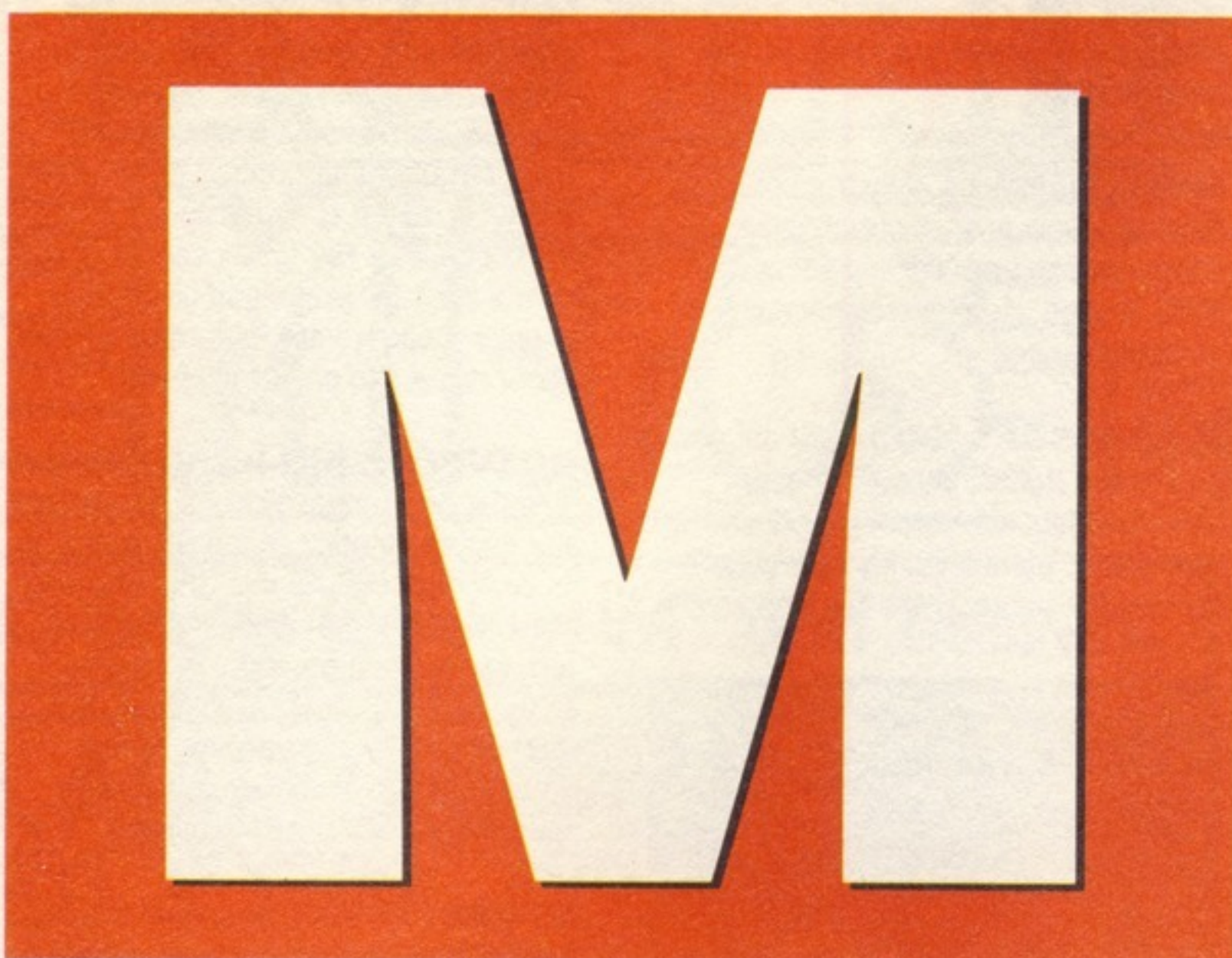
**DIGICOM**



**Unit 36, Wharfside, Fenny Stratford, MILTON KEYNES MK2 2AZ**  
**All prices include VAT and delivery by courier**







**MACHINE CODE (L):** Instructions which are directly understandable by a computer in the form of hex numbers: 05, C8, 4F, 32 and so on. All programs eventually get 'translated' into machine code before the computer can perform them. Contrast with **assembly language**, **high-level language**. See also **hex**.

**MACHINE INDEPENDENT (T):** Programs which can be run on any machine regardless of configuration. This is usually achieved using a standardised compiler or operating environment such as Unix.

**MACINTOSH (C):** Fast, modern microcomputer designed and marketed by Apple Computers. The machine incorporates a Motorola 68000 processor and was one of the first computers to make use of the WIMP (Windows, Icons, Mouse, Pointer) interface. The Mac, as it's affectionately known, is very popular in the USA where it was first launched, although it is gaining greater momentum in the UK due to its use in desk top publishing applications, to which it is ideally suited - fast, with a good selection of very professional packages available.



• Apple Macintosh II: Ideal DTP machine using fast Motorola 68000 processor

**MACRO (L):** A single command which represents a series of individual instructions. The macro allows a programmer to gather together similar commands or those necessary for a particular task and issue them as one command. For example, to make a cup of tea you may carry out the following instructions:

1. fill kettle with water
2. switch on kettle
3. put tea bag in teapot

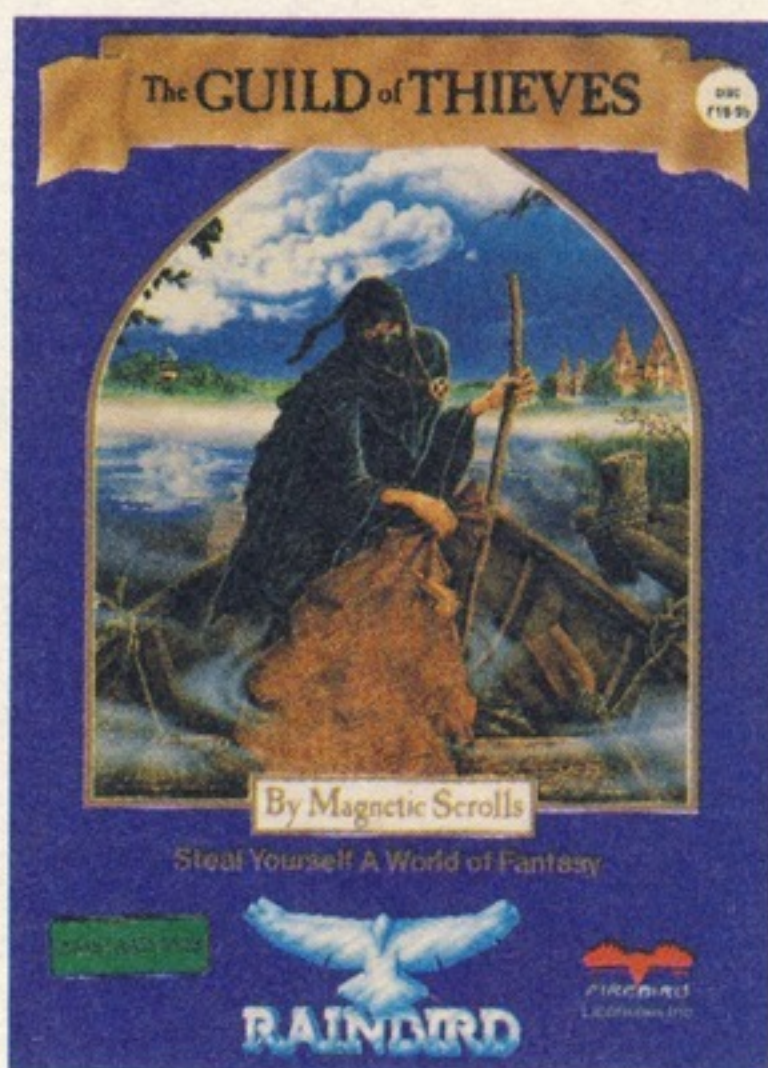
4. when kettle boils, pour water into teapot
5. wait 5 minutes
6. get cup
7. pour tea into cup

A simple macro which would handle all of these instructions would be: Make-tea. Giving this one command would cause all the others to be performed automatically

**MACRO ASSEMBLER (L):** An assembly language assembler which allows groups of instructions to be assigned to macros. See also **macro**.

**MAGNETIC DISK (T):** Generic term to describe floppy and hard disks. See also **floppy disk**, **hard disk**, **magnetic tape**.

**MAGNETIC SCROLLS (CO.):** Award winning software development company responsible for a range of



• Guild of Thieves: Classic adventure software from Magnetic Scrolls

graphical adventures including *The Pawn*, *Guild of Thieves* and *Fish*.

**MAGNETIC TAPE (T):** Before the advent of floppy disks, magnetic tape - exactly as that used in domestic cassette machines - was used to store vast amounts of computer data. Although comparatively fast, tape doesn't compare to disk speeds due to the former being a sequential access device. That is, the tape is read from

beginning to end, one piece after another, until the desired data is located. The disk drive can move to anywhere on the disk that the data is stored without having to read the rest of the disk (much like a CD player). However, tape is still used in vast quantities in order to make 'back-ups' of hard disks, i.e. storing all the data on a hard disk to tape in case the disk should suffer a head crash. See also **magnetic disk**.

**MAIL BOX (T):** Mainframe, Mini and Networked computers, due to their inherent large user base, provide a form of electronic mail that allows those users to communicate to each other across the machine or network via electronic 'notes'. Each user of the system has a mail box of their own and this is used to store incoming and unread mail from other users.

**MAILMERGE (T):** A facility provided by the better word processors which allows you to design one letter using your word processor and then send it to large numbers of people using a stored database of names and addresses - the 'Prize Draw' type letter we all receive from time to time.

**MAINFRAME (C):** Generic term used to describe a range of computers which are the largest and most powerful available at any one time. All of the early computers were mainframes, due in part to the fact that using the technology of the day, it simply wasn't possible to make computers smaller than several large rooms. Today there are few manufacturers still in the mainframe market, with the exception of IBM and CRAY Research. Contrast with **minicomputer**, **microcomputer**.

**MAIN MEMORY (T):** This is the main bank of RAM memory contained within the computer and used as a measure of its size i.e. 'that Jones X-1 machine is simply a monster, it has 64K!'. See also **RAM**, **ROM**.

**MANDARIN (CO.):** Software company responsible for the hugely popular STOS replacement BASIC and add-ons for the Atari ST. Mandarin is about to release a version for the Amiga known as AMOS.



• Sprites 600: Part of Mandarin's highly successful STOS games creation package

**MAINTENANCE PROGRAMMER (P):** The 'bread and butter' programmer of the computer world.

Whilst others are engaged in new and exciting development work, the maintenance programmer is toiling away with existing computer software in an attempt to remove a bug or adapt it to new circumstances. Maintenance programmers receive the lowest salaries within the programming sphere.

**MARAUDER (UTILITY):** Infamous American software copying program for the Amiga. The program is designed and marketed by USA software company Discovery.

**MASTER DISK (T):** Usually, after buying an expensive software package, you are encouraged to make a back-up of the original disks, that is, make a copy of them and store the original or 'master' disk(s) away for safe keeping. Unfortunately, many software houses use protection methods with their software to stop you from making illicit copies for distribution to your friends. The practice of protecting software means that you have to use the master disk.

**MASTERTRONIC (CO.):** Formed in 1984, the company is responsible for the infamous budget game. After being bought by Richard Branson's Virgin conglomerate the company began to distribute the Sega console.

**MATCHDAY (G):** Football game greatly beloved of Spectrum owners, released by Ocean.

**MATRIX (T):** The matrix is originally a mathematical construct composed of a series of numbered columns and rows which make up cells where the columns and rows bisect one another. Each cell can be individually accessed by quoting the numbers of the column and row which form it. The matrix forms the heart of computer perennial the spreadsheet.

**MATRIX PRINTER (T):** This is the generic term describing printers which use a impact pin or ink jet matrix to form characters on a sheet of paper.

**MBASIC (L):** Microsoft BASIC. The adopted standard for BASIC within the home computer market. Almost all BASICs supplied with these machines are a bastardised version of the original. See also BASIC.

**MEDIAGENIC (CO.):** The corporate name for Activision. See also **Activision**.

**MEMORY (T):** 'Notepad' store within a computer used to store programs, data etc. See also **main memory**, **RAM**, **ROM**.

**MEMORY CHIP (T):** An integrated circuit which - installed in a computer - provides a portion of the memory available to the computer. The memory chip can be thought of as a series of little 'pigeon holes' in which data can be placed and later retrieved. Memory chips, particularly the DRAM, are in very short supply at the moment due in part to the trade sanctions imposed upon Japan by the United States. This shortage has led to large increases ➤



in the price of new computers where previously they were decreasing at an exponential rate.

**MEMORY MAP (T):** This is a document which gives a breakdown of how ROM and RAM memory is divided up within a computer. Several publishers have produced memory maps for some of the more popular home computers, but one of the best is *Mapping the Atari* from Compute! which gives a complete description of all memory locations and examples of how to use them to best advantage.

**MENACE (G):** Popular horizontally scrolling shoot-em-up from Psygnosis. See also *Psygnosis*.

**MENU (T):** The computer menu is exactly the same as its restaurant counterpart. It provides a selection of possible options, some of which you to another menu (nested menus) or into/out of a program.

**METACHARACTER (T):** A symbol which is used as a control character within a computer program or instruction. The metacharacter is used to switch a screen to inverse display mode, switch a printer into graphics mode etc.

**METACOMPCO (CO.):** Bristol-based company which stepped in at the eleventh hour of the Amiga's development to produce AmigaDos – a version of Tripos.

**MGT (CO.):** Miles Gordon Technology. The company began life supplying a range of peripherals for the Spectrum but for the last couple of years has been involved in the development of a 'super Spectrum' clone with various ports and goodies.



• Bruce Gordon: Member of MGT and designer of new MGT SAM Coupe

**MHZ (T):** Megahertz – one million cycles per second. MHz is used as a measure of processor speed. For example, the standard IBM-PC processor runs at 4.77MHz, many of the PC clones offer running speeds of 8MHz, the ST's 68000 processor runs as standard at 8MHz. Unfortunately, a MHz speed rating doesn't necessarily mean that two machines are running at the same speed, faster or slower. As well as processor speed any performance rating has to account for the rest of the system architecture, such as the address and data buses, speed of drives etc.

**MICROCOMPUTER (T):** Generic name for small desktop sized computers which are cheap and

available to the person in the street. The first widely-available microcomputers used 8-bit CPUs such as the Z80 to provide a reasonable amount of speed and power. Today's 32-bit processors coupled with hard drives offering vast storage abilities have practically ensured the demise of the minicomputer and offer almost as much power as the mainframe. Certainly, they are significantly faster and more powerful than the mainframes of just a few years ago. See also *mainframe*, *minicomputer*.

**MICROCHIP (T):** A tiny silicon chip which has many thousands of components etched onto its surface.

**MICROCODE (L):** A collection of sub-commands or instructions which are held within a computer's ROM memory and which are executed when power is applied to the machine. The microcode defines the machine language instruction set of a computer. See also *assembly language*.

**MICRODEAL (CO.):** Originally producing software for the Dragon 32, Microdeal pre-empted the 16-bit craze by being the first with hits for the St and Amiga.

**MICRODEALER (CO.):** Big league software distribution company.

**MICRO ILLUSIONS (CO.):** American software company producing a range of utility programs but notable for the application *Photon Paint*.

**MICRO PROLOG (L):** A microcomputer implementation of the artificial intelligence language Prolog. See also *Prolog*.

**MICROPROSE (CO.):** Business alter-ego of crazy 'fly-boy' Wild Bill Seally, the company is responsible for a large range of flight simulation games such as *F-15 Strike Eagle*, *Solo Flight* and *Gunship*. MicroProse recently bought Telecomsoft putting it in the top three software companies.

**MICROSOFT (CO.):** Software company based in Belle Vue, Washington USA which is responsible for the MS-DOS/ PC-DOS operating system, *MBASIC*, *Word*, *Windows* and many other notable products. The company was formed in 1975 by Bill Gates and Paul Allen. Microsoft applications play a large part in dictating the way that microcomputer software applications will progress, due to the immense influence the company has on the computer market.

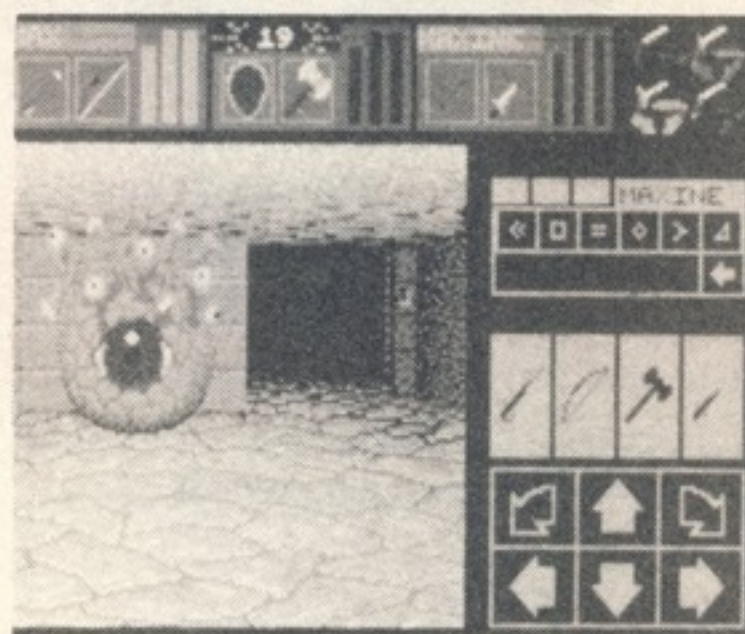
**MINDSCAPE (CO.):** American software house responsible for hit games *Shadow Gate* and *Deja Vu* who set up in the UK at the beginning of this year.

**MINICOMPUTER (C):** Generic name for a range of computers which were smaller than mainframes but significantly larger than the desktop sized micros. Many companies made their name by designing, manufacturing and marketing minicomputers such as Data General, and NCR. Today, the

powerful, fast, convenient and above all cheap micro has all but killed off the minicomputer.

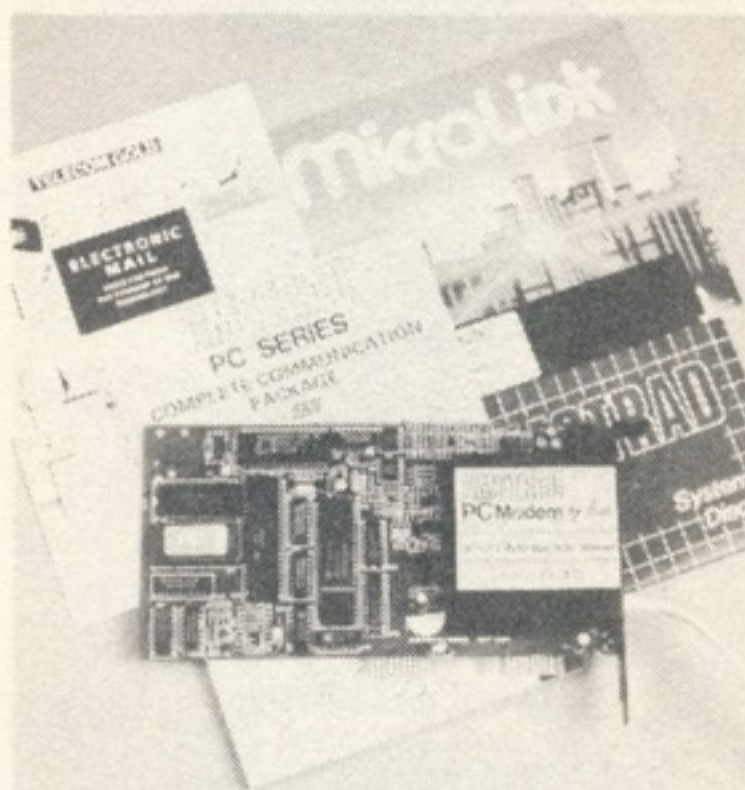
**MIPS (T):** Millions of Instructions Per Second – how many instructions a computer can perform in a second. MIPS is used as an overall measure of computer speed.

**MIRRORSOFT (CO.):** Just one tiny part of the Robert Maxwell empire, Mirrorsoft has consistently produced high quality games such as *Dungeon Master* (the biggest selling game for the ST) and *Falcon*.



• *Dungeon Master*: Mirrorsoft game that became a classic

**MODEM (T):** MOdulator DEModulator. A device which, when attached to a computer and telephone line, allows the transmission of data between two computers. The modem is able to operate at a range of speeds typically from 300 to 2400 BAUD (Baud is used as a convenient measure of transmission speeds) depending on the condition and suitability of the telephone line in use. Modems are becoming extremely popular at the moment with the advent of the computer bulletin board and nary a week goes by without some mention of the computer 'hacker' (someone who uses a modem to gain unauthorised access to some one's else's computer and data files) in the tabloid press.



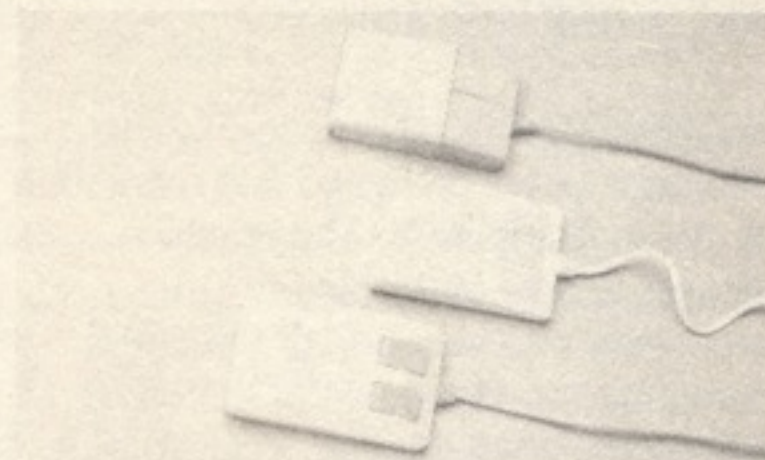
• Modems: Hardware devices which connect to ordinary telephone lines for data and file transfer

**MODULA-2 (L):** Designed by Niklaus Wirth, the language is designed as an extension of and replacement for Pascal. Due to its ease of use and modula approach to programming (that is, writing small pieces of code which can be joined together to provide a solution for a particular problem) the language is being adopted by many University computer science courses. It remains to be seen whether the business community will adopt the language for applications writing. See also *Pascal*.

**MONITOR (T):** The television-like display device used by computers to communicate with human operators. Monitors come in many shapes and sizes but the most popular is the green screen (green text and graphics as its name implies). The green screen is easy on the eyes for prolonged use. Other popular monitors are the amber screen, paper white and colour screens.

**MOTOROLA (CO.):** Semiconductor manufacture responsible for the design and implementation of the 68 series. In its 8-bit form (6809) this CPU chip was used in the Dragon and Tandy Co-Co. Today's fast and powerful micros such as the Atari ST, Apple Macintosh and Commodore Amiga use the 16-bit 68000 version of the chip to provide powerful processing capabilities.

**MOUSE (T):** Input device similar in manner to a joystick in that it is used to move around a pointer onscreen to select programs and data. The mouse is a plastic case which fits into the palm of the hand. Its underside has a revolving ball. When the mouse is pushed around on a table top the ball moves and the movement is interpreted by the computer it is attached to, moving an onscreen cursor. The case has one or more buttons which can be pressed in order to make the selection when the cursor/pointer is suitably positioned. The mouse is so-called because it is roughly the size of the rodent of the genus mus and has a tail-like cable to connect it to a computer.



• Mouse: Device to move on-screen pointer – built rather like an inverted tracker-ball

**MS-DOS (OS):** MicroSoft Disk Operating System – system developed and marketed by Microsoft and employed by IBM's PC range of machines as well as many PC clones.

**MUG (G):** Generic acronym meaning Multi User Game, i.e. one which runs on an electronic bulletin board and which can support many 'logged-in' players at the same time.

**MULTI TASKING (T):** The ability of a computer to process one or more tasks at the same time. In fact, the each task is performed in sequence by allocating it a tiny fraction of the processor's available time. This action happens so quickly, that to a human user the machine appears to be doing several things at once.

**MUSIC STUDIO (MUSIC):** Musical creation package available for a large range of machines. Version 3.0 for the PC and compatibles was reviewed in Express 30.

**MYLAR (T):** Brand name for a form of polyester film (plastic) developed and marketed by DuPont which is used in the manufacture of floppy disks.



# Evesham

# MICROS

We Accept EXPRESS VOUCHERS

All prices include VAT and Delivery

## ATARI

All our ST prices include: mouse etc. plus 5 disks of software including 'First Word' wordprocessor, utilities, 'Neochrome' graphics utility, game and demos.

### 520 STFM POWER PACK

Amazing value, all-new special ST package from Atari! Includes 520STFM with 1MEG drive, joystick, mouse, user guide, 5 disks of public domain software, plus an incredible selection of chart-topping software worth over £500! Software included is:

- |               |            |             |             |
|---------------|------------|-------------|-------------|
| R-Type        | Pacmania   | Out Run     | Nebulus     |
| Afterburner   | Starblazer | Bombuzal    | Stargoose   |
| Double Dragon | Super Huey | Xenon       | First Music |
| Super Hangon  | Eliminator | Gauntlet II | First Basic |
| Space Harrier | Predator   | Black Lamp  | Organiser   |
| Overlander    | Bombjack   | Staray      |             |

All for only **£359.00** inc VAT & delivery

### 520 STFM SUPER PACK

Includes 520 STFM with 1MEG drive, over £450 worth of software, joystick, mouse, User Guide and 5 disks of Public Domain Software. Software included is:

- |                   |             |            |
|-------------------|-------------|------------|
| Marble Madness    | Test Drive  | Chopper X  |
| Beyond Ice Palace | Buggy Boy   | Ranarama   |
| Thundercats       | Quadrailen  | Starquake  |
| Summer Olympiad   | Xenon       | Genesis    |
| Arkanoid II       | Wizball     | Black Lamp |
| Eddie Edwards Ski | Seconds Out | Thrust     |
| Ikari Warriors    | Zynaps      | Organiser  |

New price! only **£319.00** inc VAT & delivery

- 520 STFM with 1MEG internal drive fitted ..... £269.00
  - 1040 STFM latest model, with built-in TV modulator ..... £399.00
  - 1040 STFM model as above with 'Microsoft Write' & 'VIP Professional' ..... £419.00
  - 1040 STFM including joystick, 21 games with business software as supplied with above described '520STFM Super Pack' ..... £419.00
  - 1040 STFM inc. 'super pack' extras as above, 'MS-Write' & 'VIP Pro.' ..... £459.00
- Buy a monochrome monitor with any 1040 from above for £110.00 extra
- Mega ST1 with mono monitor, 'MS-Write' & 'VIP Pro.' ..... £599.00
  - Mega ST2 with mono monitor, 'MS-Write' & 'VIP Pro.' ..... £849.00
  - 'Super Pack software' as supplied with above 520 STFM offer ..... £ 60.00
  - 520 STFM 1MEG internal 3.5" drive upgrade kit inc. full instructions ..... £ 74.95
  - SM124/5 mono monitor ..... £119.00
  - SC1224 colour monitor ..... £279.00
  - Philips 15" FST Teletext TV/monitor model 1185, full rem/ctrl, c/w cable .... £269.00
  - Philips CM8833 14" colour monitor c/w ST or Amiga lead ..... £229.00
  - Philips 8CM852 as above, higher resolution (0.39mm dot pitch) ..... £259.00

## commodore 64 accessories

- Oceanic OC-118 64/128 disk drive for 64/128 with free GEOS software ... £129.95
- Oceanic OC-118 as above, with Freeze Machine cartridge ..... £149.95
- Freeze Machine complete backup cartridge, with integral reset button ..... £28.95
- LC-10 commodore 64/128 ready printer inc. 2 extra black ribbons free ..... £199.00
- LC-10 7-colour version of above printer inc. 2 extra black ribbons ..... £249.00

## Amiga & ST 3.5" Drives

- ★ Very Quiet
  - ★ Slimline Styling
  - ★ Fully Compatible
  - ★ Top quality Citizen drive mechanism
  - ★ On/Off switch for Amiga
  - ★ External plug-in PSU for ST
  - ★ Throughport for Amiga
  - ★ 1Mb unformatted capacity
- Fully compatible, high quality 3.5" external drives for the ST and Amiga
- Amiga version only **£74.95**
- Atari ST version only **£79.95**
- Prices include VAT & delivery

## Western Digital Filecards

Upgrading your PC to hard disk? Look no further, we offer the best prices on top quality hardcards. Thorough documentation supplied, low power consumption, with free XTree file management software and Speedread. For Amstrad PC1512/1640 users we supply hardcards tested and formatted, with our simple software installation procedure. The best packages available!

**20MB...£199.00 32MB...£229.00 40MB...£289.00**

## DISECTOR ST V5

for all Atari ST models only **£28.95**

New Version 5 disk utilities for the ST, features include: protected software backup, incorporating turbo nibbler, a very fast and powerful copier, which uses all available drives & memory and includes 80 parameter options for handling a greater range of software; drive B boot allowing many programs to startup from drive B; organiser accessory providing many major disk management commands; special formatters giving up to 25% extra user storage per 3.5" disk and accelerating access speed by up to 30%; fast backup version 2 copies standard disks speedily; ramdisk accessory; undelete file; PLUS much, much more!

- |                                     |                                     |
|-------------------------------------|-------------------------------------|
| <b>3.5" disks</b>                   | <b>5.25" disks</b>                  |
| 10...£11.95 in plastic case £13.95  | 25...£13.95 in 50 cap box £22.95    |
| 25...£27.95 in 40 cap case £34.95   | in 100 cap box £24.95               |
| Fully guaranteed double sided media | Fully guaranteed double sided media |

## Amstrad PC1512/1640/2086

We offer a wide choice of Amstrad PCs with many upgrade options, including the very latest PC2086 range. For the hard disk option, check our 'Evesham Upgraded Models'. Only the best will do - so we normally upgrade by means of a Western Digital Filecard, which includes XTree and SpeedRead software; however on single drive 1512/1640 models we can offer internal installations at the same price (leaving more expansion room but no upgrade opportunity for a 2nd floppy drive). On-site service contracts are available on any PC1512/1640 model for only £39.00 inc.VAT. Prices in lighter type exclude VAT.

Free with 1512 models... Ability and 4 US Gold Games

	SD	DD	AMS H.D.	SD 20MEG	DD 20MEG	SD 32MEG	DD 32MEG
EVESHAM UPGRADED MODELS							
MONO 1512	384.35 <b>442.00</b>	477.39 <b>549.00</b>	N/A N/A	557.39 <b>641.00</b>	650.44 <b>748.00</b>	583.48 <b>671.00</b>	678.52 <b>778.00</b>
COLOUR 1512	494.78 <b>569.00</b>	555.65 <b>639.00</b>	N/A N/A	667.83 <b>768.00</b>	728.70 <b>838.00</b>	693.91 <b>798.00</b>	754.78 <b>868.00</b>
MONO 1640	474.78 <b>546.00</b>	555.65 <b>639.00</b>	738.26 <b>849.00</b>	647.83 <b>745.00</b>	728.70 <b>838.00</b>	673.91 <b>775.00</b>	754.78 <b>868.00</b>
CGA (COLOUR) 1640	581.74 <b>669.00</b>	651.30 <b>749.00</b>	825.22 <b>949.00</b>	754.78 <b>868.00</b>	824.35 <b>948.00</b>	780.87 <b>898.00</b>	850.43 <b>978.00</b>
EGA (ECD) 1640	677.39 <b>779.00</b>	738.26 <b>849.00</b>	938.26 <b>1079.00</b>	850.44 <b>978.00</b>	911.30 <b>1048.00</b>	876.52 <b>1008.00</b>	937.39 <b>1078.00</b>
2086 MONO	569.57 <b>655.00</b>	682.61 <b>785.00</b>	912.17 <b>1049.00</b>	742.61 <b>854.00</b>	855.65 <b>984.00</b>	768.70 <b>884.00</b>	881.74 <b>1014.00</b>
2086 CD	712.17 <b>819.00</b>	821.74 <b>945.00</b>	1051.30 <b>1209.00</b>	885.21 <b>1018.00</b>	894.78 <b>1144.00</b>	911.30 <b>1048.00</b>	1020.87 <b>1174.00</b>
2086 12" HRCD	794.78 <b>914.00</b>	912.17 <b>1049.00</b>	1120.87 <b>1289.00</b>	967.83 <b>1113.00</b>	1085.22 <b>1248.00</b>	993.91 <b>1143.00</b>	1111.30 <b>1278.00</b>
2086 14" HRCD	886.09 <b>1019.00</b>	1007.83 <b>1159.00</b>	1233.91 <b>1419.00</b>	1059.13 <b>1218.00</b>	1180.87 <b>1358.00</b>	1085.22 <b>1248.00</b>	1206.96 <b>1388.00</b>

PC1512 special offer ..... Buy an Amstrad DMP3160 10" carriage 9pin printer with any PC1512 model for only £120.00 extra!

## optional extras

- |   |  |
|---|--|
| 1512 memory upgrade to 640K ..... £39.95  | Enhancer 101 replacement keyboard ... £74.95 |
| Maths Co-processor 8087-2 ..... £129.00   | 3.5" drive (720K) for SD models ..... £79.95 |
| NEC V30 (8086 replacement) ..... £24.95   | PC2000 series compatible                     |
| Cipher CT1525 tape streamer ..... £319.00 | 5.25" (360K) external drive ..... £100.00    |
| Amstrad Modem Card V21/23 ..... £99.00    | Joystick & Controller Card                   |
| Amstrad MC2400 Modem Card ..... £199.00   | self centering analog type ..... £34.95      |

## Amstrad PPCs

- Low prices on all portable PCs - especially twin drive models prices in brackets are excluding VAT
- |                                 |                                 |
|---------------------------------|---------------------------------|
| PPC512S ..... (£373.04) £429.00 | PPC640S ..... (£477.39) £549.00 |
| PPC512D ..... (£433.91) £499.00 | PPC640D ..... (£546.96) £629.00 |

New low price External 3.5" floppy drive (720K) to suit ANY Amstrad 1512/1640 inc. DD and HD models! Uses no expansion slots ..... £99.95

## Central Point Software

- For all your PC disk management requirements
- PC Tools Deluxe Version 5**...Other utilities may claim to 'do it all' but only PC Tools Deluxe is the complete disk utility package, providing a fast hard disk backup, the best undelete available, 100% safe formatting of floppy and hard disks, unformat, reliable disk caching, compress facility, in fact everything required to manage & protect your data at a sensible price.....£49.95
- Copy II PC Version 5**.....The most effective floppy disk backup utility of its type. We always ship the latest version. Can also transfer many programs to hard disk and then run them without reference to floppy. Supports both 5.25" and 3.5" disk format. Don't be without it.....£24.95
- Copy II Deluxe Option Board**.....The ultimate solution to backing up copy-protected software using the hardware option. All the original features of the Option Board, including the most powerful backup copier product on the market, and can even transform any PC equipped with a 3.5" drive into a dual purpose IBM/Macintosh drive. Allows your PC to read and write to MAC data disks easily through DOS. Comes as an easy-to-fit short card.....£84.95

## PRINTERS

All prices include VAT, delivery and cable



We use and recommend Star printers since they do offer an unbeatable combination of features, print quality, reliability and value. Make the sensible decision - get it right with a Star printer at our special, all in, prices.

- Star LC10 best-selling 144/36cps printer, 4 NLQ fonts, inc.2 extra ribbons free .. £199.00
- Star LC10 7-colour version of above printer, inc.2 extra black ribbons ..... £249.00
- Star LC24-10 feature-packed multifont 24 pin printer ..... £319.00
- Star NB24-10 great value 24pin inc. cut sheet feeder + 2 extra ribbons ..... £499.00
- Star NX-15 budget wide carriage printer ..... £329.00
- Star NB24-15 wide carr.version of NB24-10 inc. cut sheet feeder ..... £649.00
- NEC P2200 budget 24pin, great value 168/56 cps ..... £319.00
- Amstrad DMP3160/3250DI good value 10" 9pin ..... £169.00
- Panasonic KXP1081 reliable budget 10" printer 120/24 cps ..... £169.00
- Panasonic KXP1180 super new 9pin with over 3400 typestyles, 11" carriage .... £199.00
- Panasonic KXP1124 great new sturdy 11" multifont 24pin printer ..... £319.00
- Epson LX800 popular 10" 180/25 cps ..... £199.00
- Epson LQ500 good 24pin printer 150/50 cps ..... £319.00
- Citizen 120D good value 10" 120 cps ..... £139.00
- Citizen HQP-45 wide carriage 24pin printer ..... £399.00

## How to order

- All prices VAT/delivery inclusive  
Express courier delivery £5.00 extra
- Send cheque, P.O. or ACCESS/VISA details  
Phone with ACCESS/VISA details  
Govt., educ. & PLC official orders welcome  
All goods subject to availability E.&O.E.  
Open to callers 6 days, 9.30-5.30  
Telex: 333294 Fax: 0386 765354
- Evesham Micros Ltd**  
63 Bridge Street  
Evesham  
Worcs WR11 4SF  
Tel: 0386 765500
- Also at: 1762 Pershore Rd., Cotteridge, Birmingham, B30 3BH Tel: 021 458 4564



# Win a printer!



**W**orried about viruses? You can win virus protection for your PC – plus an Epson LX800 printer, worth £250, in the Express virus competition. And 25 runners-up will also receive the brand-new virus protection package from Software Horizons, which markets 'Sleepsafe' for PCs. It's not only a virus-buster, but it also prevents accidental erasure of information. It would normally cost you £29.95, but you can win one – and a whole lot of piece of mind – free!

The five characters below all work at Lombard Megaholdings, and have been attacked by a virus – obviously they should have had a virus protection routine. Fortunately, the virus could only wipe the directory track of their shared hard disk before it was caught. So their data was intact, but they can't work out whose is whose.

Use your skill and judgment to match the printouts of the data they lost to the people you think they belong to. Then write your answers on a postcard and send it to us. For example, if you think that example A goes with person 1, write 'A-1' and so on. Do this for all five examples, add your name and address and send it to:

**'Sleepsafe' Virus-Buster Competition, New Computer Express, 4 Queen St, Bath BA1 1EJ.**

● **PEOPLE**

- 1 Eric Lombard: Managing Director
- 2 Jonty Ward-Davison: Creative Planning
- 3 Jennifer Adams: Advertising Sales
- 4 Ron Suggett: Cleaner and odd job man
- 5 Sharon Collins: Typing Pool

● **PRINTOUTS**

**A** ...my hair dryer. After that we can go to the disco and meet up with Kevin and Shane. Kevin and I are going on holiday to Corfu next week. He wanted to take the Capri but I thought, I bet I end up driving...

**B** ...the toilet. If you ask me the ballcock needs replacing too. As far as the gutters, I don't mind if you want to leave them to next year but they will need some patching up mean time...

**C** ...my third mortgage. I've sold the Porsche and bought a timeshare apartment in the Algarve, and I'm renting my second flat to the people who sold it to me for a hundred quid a week more than my mortgage, and my yacht...

**D** ...the 'concept' behind it. This campaign must focus on brand identity and appeal to the 'aspirational group' of 16-24 year olds. They feel sympathetic towards, and 'identify' with, the 'product', and make spending decisions on the 'product' based on a desire for...

**E** ...the golf club. The shop floor workers want an extra 5%. This is too much. 2.3% is quite enough, given the extension of the tea break as agreed. As for the stewards, they are a bunch of Marxist troublemakers. When you employ typists check they're not planning a family – I don't want to get tangled up in maternity leave and such nonsense...

## FUTUREPLACE COMPUTERS



TELEPHONE: 01-692 8700



12 Loampit Hill  
Lewisham  
London  
SE13 7SW

### ATARI ST & AMIGA OWNERS WHY PAY TOP PRICES ALL GAMES SOFTWARE AT 30% DISCOUNT

EXAMPLE PRICES	ST
Millenium 2.2	17.50
Robocop	14.00
Silk Worm	14.00
Microprose Soccer	17.50
Kick Off	14.00
Voyager	14.00
3D Pool	14.00
Airborne Ranger	17.50
Falcon	17.50
LED Storm	14.00
Bio Challenge	14.00
Dragon Ninja	17.50

**3 1/2** DOUBLE SIDED DISKS  
DOUBLE DENSITY  
135 TPI GUARANTEED

	Price
10	£9.50
25	£22.50
50	£43.00
100	£84.00

Please add £1.50 P&P

Discount Chart

RRP	OUR PRICE
£12.99	£9.00
£14.99	£10.50
£15.95	£11.00
£16.95	£12.00
£17.95	£12.50
£19.99	£14.00
£22.95	£16.00
£24.95	£17.50
£29.99	£21.00

### DRAGON'S LAIR £31.50

Atari 520 Power Pack	369.00
Atari 1040 Professional Pack	479.00
Atari Super Pack	349.00
Amiga 500 + Modulator	369.00
Star LC10 Printer	199.00
Star LC Colour Printer	245.00
Citizen 120D Printer Parallel Interface	138.00
Citizen 180E Printer Parallel Interface	159.00

Atari Mouse Extender	5.95
Atari To Scart Lead	14.99
Mouse Mat	4.99
Amiga Second Drive	99.99
Amiga 1 meg Upgrade	139.00
100 Cap Disk Box	9.95
50 Cap Disk Box	7.50

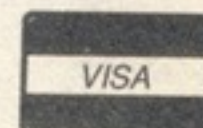
Shop Hours Monday to Friday 10am - 6pm  
Saturday 9am - 6pm



### CREDIT CARD HOTLINE 01-692 8700

ACCESS VISA DINERS CLUB AMERICAN EXPRESS

Please add £1.50 P&P on all orders under £75. All prices include VAT. CWO to Futureplace Ltd.  
Also Available to order MOBILE PHONES and FAX MACHINES





# FREE! TENSTAR PACK WORTH OVER £229!



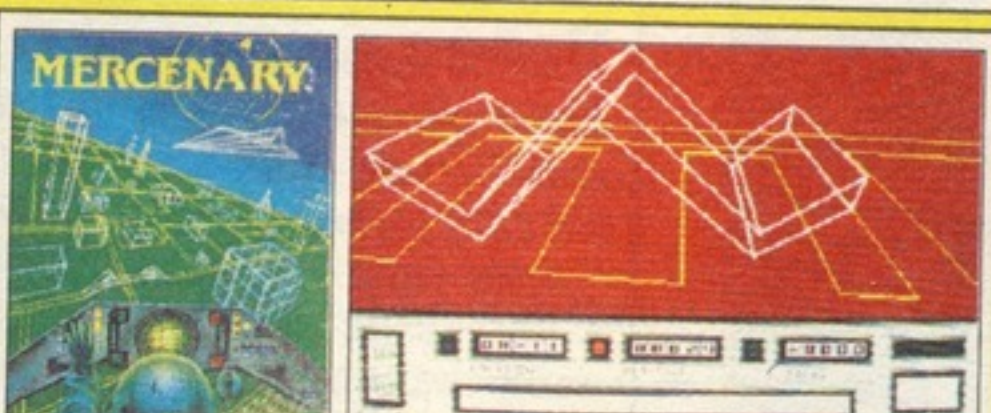
FREE! - AMEGAS - by Players



FREE! - INSANITY FIGHT - by Microdeal



FREE! - ART OF CHESS - by SPA



FREE! - MERCENARY COMP - by Novagen



FREE! - BARBARIAN, ULT WARRIOR - by Palace



FREE! - TERRORPODS - by Psygnosis



FREE! - BUGGY BOY - by Elite



FREE! - THUNDERCATS - by Elite



FREE! - IKARI WARRIORS - by Elite



FREE! - WIZBALL - by Ocean

# Commodore AMIGA



ONLY £3.34 PER WEEK  
RETURN COUPON FOR DETAILS

# £346.95 +VAT= £399

INCLUDES FREE UK DELIVERY

The Amiga 500 is one of a new breed of technologically advanced computers, which are now emerging as the new standard for home computing, based around the new Motorola 68000 chip. The A500 has 512K RAM and a 1Mbyte double sided disk drive built-in. It can be connected directly to a wide range of monitors, or to a domestic TV set through a TV modulator. Designed with the user in mind, the A500 features a user friendly WIMP environment and comes supplied with a free mouse. And, when you buy your Amiga from Silica Shop, the UK's No1 Amiga specialists, you will experience an after sales service that is second to none, including a technical support helpline and free newsletters and price lists. Return the coupon below for our current information pack, which will give details of the Silica service and the very latest Silica Amiga offers. E&OE

## WHY SILICA SHOP?

Before you decide when to buy your new Commodore Amiga computer, we suggest you consider very carefully WHERE you buy it. There are MANY companies who can offer you a computer, a few peripherals and the top ten selling titles. There are FEWER companies who can offer a wide range of products for your computer as well as expert advice and help when you need it. There is ONLY ONE company who can provide the largest range of Amiga related products in the UK, a full time Amiga specialist technical helpline and in-depth after sales support, including free newsletters and brochures delivered to your door for as long as you require after you purchase your computer. That one company is Silica Shop. We have been established in the home computer field for ten years and can now claim to meet our customers requirements with an accuracy and understanding which is second to none. Here are just some of the things we can offer you:

**THE FULL STOCK RANGE:** The largest range of Amiga related peripherals, accessories, books and software in the UK.

**AFTER SALES SUPPORT:** The staff at Silica Shop are dedicated to help you to get the best from your Amiga.

**FREE NEWSLETTERS:** Mailed direct to your home as soon as we print them, featuring offers and latest releases.

**FREE OVERNIGHT DELIVERY:** On all hardware orders shipped to Silica Shop customers within the UK mainland.

**PRICE MATCH PROMISE:** We will normally match our competitors offers on a 'same product same price' basis.

**FREE TECHNICAL HELPLINE:** Full time team of Amiga technical experts to help you with your technical queries.

But don't just take our word for it. Complete and return the coupon below for our latest Amiga literature and begin to experience the Silica Shop specialist Amiga service.

## PHOTON PAINT PACK

A500 Computer	£399.99
TV Modulator	£24.99
Photon Paint	£69.95
TenStar Pack	£229.50
<b>TOTAL RRP:</b>	<b>£724.43</b>
<b>LESS DISCOUNT:</b>	<b>£325.43</b>
<b>PACK PRICE INC VAT:</b>	<b>£399</b>

## 1084S MONITOR PACK

A500 Computer	£399.99
1084S Colour Monitor	£299.99
Photon Paint	£69.95
TenStar Pack	£229.50
<b>TOTAL RRP:</b>	<b>£999.43</b>
<b>LESS DISCOUNT:</b>	<b>£350.43</b>
<b>PACK PRICE INC VAT:</b>	<b>£649</b>

## FREE FROM SILICA

When you buy the Amiga 500 from Silica Shop, you will not only get a high power, value for money computer, we will also give you some spectacular free gifts. First of all, we are now including a TV modulator with every A500 stand alone keyboard, so you can plug your Amiga straight into your TV at home (the modulator is not included with the A500+A1084S pack as it is not required for use with monitors). Secondly, we have added a free copy of Photon Paint, an advanced graphics package with an RRP of £69.95. Last (and by no means least!), so that you can be up and running straight away, we are giving away the sensational TENSTAR GAMES PACK with every A500 purchased at Silica Shop. This pack features ten top Amiga titles which have a combined RRP of nearly £230! Return the coupon for details.

## FREE TENSTAR PACK

Amegas	£14.95
Art Of Chess	£24.95
Barbarian, Ult Warrior	£19.95
Buggy Boy	£24.95
Ikari Warriors	£24.95
Insanity Fight	£24.95
Mercenary Comp	£19.95
Terrorpods	£24.95
Thundercats	£24.95
Wizball	£24.95
<b>TOTAL RRP:</b>	<b>£229.50</b>
<b>INC VAT</b>	<b>£229.50</b>

## DO YOU OWN AN AMIGA?

If you already own an Amiga computer and would like to be registered on our mailing list as an Amiga user, let us know. We will be pleased to send you copies of our price lists and newsletters FREE OF CHARGE as they become available. Complete the coupon and return it to our Sidcup branch and begin experiencing a specialist Amiga service that is second to none.

### SILICA SHOP:

<b>SIDCUP (&amp; Mail Order)</b>	<b>01-309 1111</b>
1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX	
OPEN: MON-SAT 9am - 5.30pm	LATE NIGHT: FRIDAY 9am - 7pm
<b>LONDON</b>	<b>01-580 4000</b>
52 Tottenham Court Road, London, W1P 0BA	
OPEN: MON-SAT 9.30am - 6.00pm	LATE NIGHT: NONE
<b>LONDON</b>	<b>01-629 1234 ext 3914</b>
Selfridges (1st floor), Oxford Street, London, W1A 1AB	
OPEN: MON-SAT 9am - 6.00pm	LATE NIGHT: THURSDAY 9am - 8pm

To: Silica Shop Ltd. Dept NCE 06 89 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX  
**PLEASE SEND ME FREE LITERATURE ON THE AMIGA**

Mr/Mrs/Ms: ..... Initials: ..... Surname: .....

Address: .....

Postcode: .....

Dept NCE 06 89

Do you already own a computer  
If so, which one do you own?



# BYTEBACK



KEENEST PRICES

**FAST**  
DELIVERY SERVICE

We're programmed to help, so ring us now.

WE ACCEPT  
EXPRESS  
VOUCHERS

GUARANTEED RETURN OF POST Delivery on ALL Stock Items!

ST and AMIGA	ONLY!	ST and AMIGA	ONLY!
After Burner	£16.90	Baal	£13.90
Balance of Power 1990	£16.90	Barbarian II	£13.90
Batman (AM: £16.90)	£13.90	Battle Chess	£17.90
Battlehawks 1942	£19.90	Bio Challenge	£16.90
Black Cauldron	£19.90	Chuckie Egg	£13.90
Chuckie Egg 2	£13.90	Combat Pilot	£16.90
Cosmic Pirate	£13.90	Cybemoid II	£16.90
Dark Fusion	£16.90	Deja Vu II	£16.90
Demon's Writter	£19.90	Dragon Ninja (AM: £16.90)	£13.90
Dungeon Master	£16.90	Dungeon Master Editor	£8.90
Elite	£16.90	Emmanuelle	£13.90
Forgotten Worlds	£16.90	Galdregon's Domain	£13.90
Garfield	£13.90	Gartlet II	£16.90
Gunship	£16.90	H.A.T.E	£16.90
International Karate Plus	£16.90	Journey to Centre of Earth	£16.90
Kilt	£16.90	Leisure Suit Larry	£16.90
Manhunter New York	£19.90	Mayday Squad	£13.90
Microprose Soccer	£16.90	Mike Reads Pop Quiz	£13.90
Millennium 2.2	£16.90	Outrun	£7.90
Pac-Land	£13.90	Populous	£17.90
Precious Metal	£16.90	Prison	£13.90
Running Man	£16.90	Silkworm	£13.90
Soroerer Lord	£16.90	Steve Davis Snooker	£13.90
Super Hang On	£19.90	Time Scanner (AM: £19.90)	£16.90
Voyager	£16.90	W anderer 3D	£13.90
W icked (AM: £19.90)	£16.90	World Class Leaderboard	£7.90
Zak McKracken	£19.90	Zany Golf	£16.90

ATARI ST only	ONLY!	AMIGA only	ONLY!
Archipelagos	£16.90	Blood Money	£16.90
Ballistix	£13.90	Classic Invaders	£9.90
Borodino	£24.90	Demons Writter	£19.90
Colossus Chess X	£16.90	Denaris	£16.90
Galdregon's Domain	£9.90	Leisure Suit Larry 2	£19.90
Pharaoh III	£9.90	Lords of the Rising Sun	£16.90
Police Quest II	£16.90	Sword of Sodan	£16.90
Typhoon Thompson	£16.90	TV Sports Football	£19.90
Degas Elite	£16.90	AmigaDOS Toolbox	£39.90
First Word Plus	£59.90	BBC Emulator	£39.90
GFA Basic (NEW v.3)	£49.90	Deluxe Paint III	£62.90
Home Accounts	£22.90	Deluxe Photolab	£52.50
Mini Office - Spreadsheet	£16.90	Fantavision	£34.90
Mini Office - Pro. Comms	£16.90	GFA Basic (V.3)	£59.90
Nevada Cobol	£39.90	Hisoft Basic	£59.90
Protect (4)	£74.90	Home Accounts	£22.90
Scan Art + Draw Art	£52.50	Pixmate	£39.90
STOS Compiler	£13.90	Publishers Choice	£69.90
Turbo ST	£32.90	W orkbench 1.3	£12.90
WERCS Plus	£37.90	miniGEN	£99.90
Multiface ST (1.5 or later)	£54.90	X-COPY (NEW 1.3)	£29.90
COPY ST (NEW V1.2m)	£29.90	PROJECT 'D' (NEW 1.2)	£29.90

ATARI ST	SALE ★ SALE	AMIGA	SALE ★ SALE ★
Captain Blood	£6.90	Armageddon Man	£7.90
Crazy Cars	£7.90	Empire	£13.90
Galdregon's Domain	£9.90	Falcon	£16.90
Karting Grand Prix	£7.90	Phantom Fighter	£7.90
Operation Neptune	£9.90	Spaceball	£6.90
Super Cycle	£7.90	Vizen	£7.90
Zany Golf	£14.90	Knight Orc	£7.90

HARDWARE	ONLY!
STAR LC10 Printer - Standard (Plus FREE Cable)	£297.85 ..... £199.00
STAR LC10 Printer - Colour (Plus FREE Cable)	£343.85 ..... £229.00
STAR LC10 Black Printer Ribbon	£4.60 ..... £3.90
STAR LC10 Colour Printer Ribbon	£6.90 ..... £5.90
CUMANA 3.5" 1Mb Disk Drive	£129.00 ..... £99.00

ACCESSORIES	ONLY!	ONLY!	
3.5" Disks DS/DD (x10)	£9.90	Locking Disk Box (30)	£5.90
3.5" Disks DS/DD (x50)	£45.00	Locking Disk Box (50)	£7.90
Box of DS SONY Disks (x10)	£14.90	Locking Disk Box (100)	£9.90
Furry Mouse Cover	£6.90	Mouse Bracket	£3.90
Media Box (Holds 150 disks)	£19.90	Mouse Mat	£5.90
Keyboard Cover	£5.90	Joystick/Mouse extension	£4.90
Quickshot II Turbo	£11.90	Joystick Lead (3 metres!)	£4.90
Cobra Joystick	£12.90	Competition Pro 5000	£14.90

This is just a small selection of our VAST range of 68000 Software!  
Phone/Write for full catalogue - stating: Atari ST or AMIGA

**BYTEBACK** DEPT NCE6 MUMBY CLOSE  
NEWARK, NOTTS NG24 1JE

PAY BY CHEQUE,  
POSTAL ORDER OR USE  
YOUR CREDIT CARD  
**0636-79097**



## YOUR FORMAT MACHINE-SPECIFIC COLUMNS

CLUBCLUBCLUBCLUBCLUBCLUBCLUBCLUB  
CLUBCLUBCLUBCLUBCLUBCLUBCLUBCLUB  
CLUBCLUBCLUBCLUBCLUBCLUBCLUBCLUB  
CLUBCLUBCLUBCLUBCLUBCLUBCLUBCLUB  
CLUBCLUBCLUBCLUBCLUBCLUBCLUBCLUB  
CLUBCLUBCLUBCLUBCLUBCLUBCLUBCLUB  
CLUBCLUBCLUBCLUBCLUBCLUBCLUBCLUB  
CLUBCLUBCLUBCLUBCLUBCLUBCLUBCLUB  
CLUBCLUBCLUBCLUBCLUBCLUBCLUBCLUB  
CLUBCLUBCLUBCLUBCLUBCLUBCLUBCLUB  
CLUBCLUBCLUBCLUBCLUBCLUBCLUBCLUB  
CLUBCLUBCLUBCLUBCLUBCLUBCLUBCLUB  
CLUBCLUBCLUBCLUBCLUBCLUBCLUBCLUB

# ST

### Dance away

Steinberg's latest, *Avalon*, will appeal to sampling sophisticates; it's a tool for editing and storing sampled sounds.

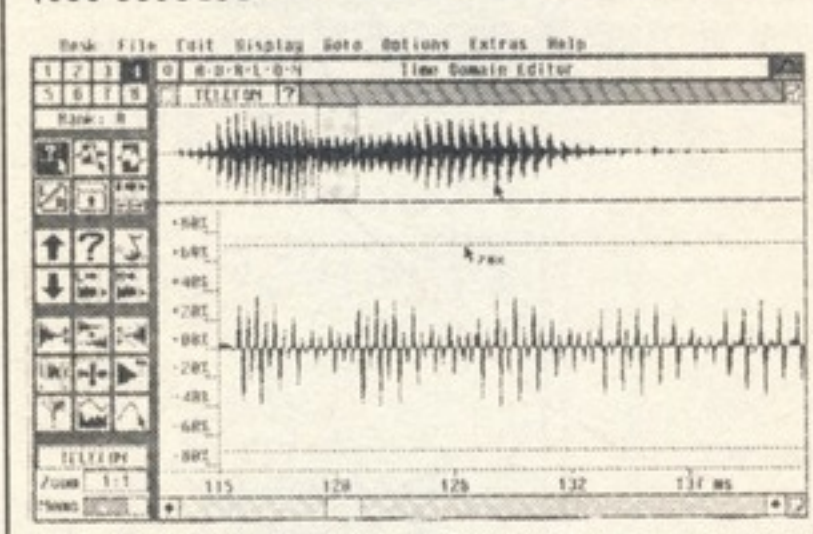
*Avalon* requires at least 1Mbyte of memory, a monochrome monitor and £200 in your wallet. *Avalon* automatically recognises up to 10 different samplers connected via MIDI. New samplers can easily be integrated into an existing network. *Avalon* is capable of converting between 8 and 16-bit samples.

*Avalon* can edit mono and stereo samples. There's even a feature for generating pseudo stereo samples from mono samples. A zoom mode allows very fast and precise adjustment of the visible sound-range. Similarly extremely precise lowpass, highpass, peak and notch filters are available. Scratches and blips can be removed from waveforms. It's even possible to work on up to eight samples at once.

Frequency domain editing represents the most complex editing level available today. After undergoing fast fourier-analysis, sounds are split into a spectrum of sine waves. You can select single frequencies (or all frequencies at a specified point in time) or the envelope of a single frequency... display them with logarithmic or linear scaling and edit them!

With the optional Steinberg D/A-Board it is possible to sample 16-bit data directly into the ST's memory from a CD player with no loss of quality. The D/A-Board can replay samples at 12-bit.

Evenlode Soundworks, distributor of Steinberg Software in this country, can fill you in on the rest of the details: **The Studio, Church Street, Stonesfield, Oxford, OX7 2PS (099 3898484)**



• Steinberg's professional sampling software, *Avalon*

### Read Mac disks

The only real problem with *Spectre 128* (distributed by HiSoft) is the package's inability to read and write Apple Mac disks directly. HiSoft reckon *Gadgets* by Small will finish work on a device that makes it possible for the ST's internal drive to read and write Macintosh disks. That really will be something, but it's not expected to arrive before August.

In the interim you can always try the *Discovery* cartridge from Happy Computers. This converts a Mac disk to Magic format (as used by *Spectre*) and vice versa.

The *Discovery* Cartridge is claimed to be five times faster than using a wire and the Translator supplied with *Spectre*. It takes *Discovery* roughly three minutes to convert a Mac disk to Magic format. Either MFS or DFS, single or double sided, can be converted.

It's possible to get the *Discovery* Cartridge with sockets for fitting 128K ROMs. This saves you unplugging *Spectre* when you need to convert a Mac disk.

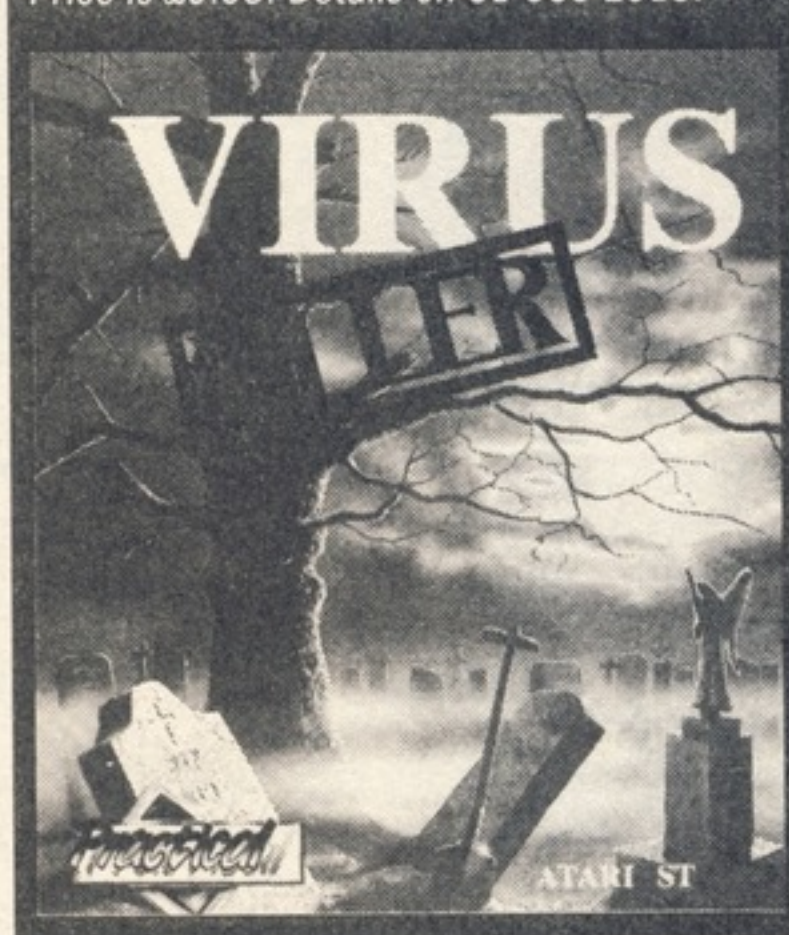
The *Discovery* Cartridge also acts as a

backup device, containing a sophisticated disk controller. The device is said to be able to back up Amiga and PC disks as well.

The complete system for disk backup and Mac disk conversion costs \$249.95 while the same system with provision for housing the ROMs cost \$319.95. Happy Computers is at PO Box 1268, Morgan Hill, CA 95037, USA (0101 408 7793830).

### Shot in the arm

Here's a turn-up for the books; version 3.6 of Richard Karsmaker's virus killer is currently being sold by Practical (a CRL label). An earlier incarnation, VDU, was sold by a leading public domain library (but not as PD - if you catch my drift). Virus Killer, as the latest release is uninspiringly called, can detect and destroy 20 types of virus. Price is £9.95. Details on 01-533 2918.



### Universal patch editor

The universal MIDI instrument patch editor is an idea that has been floated around for several years, but until now has never been achieved. Zadok reckons *Uni-Man* fulfils that feat. Features follow:

- A number of device drivers are supplied for the D50, R8, K1, DX7, DW8000, M1 and A3 (Are you sure these guys haven't confused MIDI instruments for motorways).
- All sound/patch data files created by other software - MIDI file format, *Omni Banker*, *Gen-patch*, *Synthworks*, *Dr T's* - can be used.
- You can theoretically organise, edit and exchange all your MIDI sound patch data within one program.
- A management/editing environment can be created for any new MIDI equipment.

Sadly there isn't a distributor for *Uni-Man* in this country. Let's hope that changes soon. If you're desperate to get your hands on this unique package then get in touch with Zadok, PO Box 1192, 2260BD Leidschendam, The Netherlands. Telephone: 31 (0)70 200209. Price for *Uni-Man* is 500 Dutch guilders.

### TOS 1.4 tips

With the latest revision of TOS imminent, here are a few things you might not know about version 1.4.

All bugs in previous TOSs are claimed to be removed (that doesn't mean new ones haven't been added). While the new TOS is first destined for the laptop ST, it will also feature in the forthcoming 68030-based TT.

It's common knowledge that a soft reset is available from the keyboard by using the PC-standard Control-Alternate-Delete combination, but what isn't appreciated is that there's also a hard reset available. By pressing Control, Alternate, right Shift and Delete simultaneously, all RAM will be cleared as though the machine had been powered off.

Points of more interest to programmers include an OS pool of a similar size to pre-Mega ROMs, the archive bit works properly, the malloc restriction of 20 blocks has been lifted and Frename will rename a folder.

Adrian McHerriot



# AMIGA BLIT

## Anco's (football) strip

It seemed impossible, but Anco has produced a game that does not feature even the slightest hint of female flesh. The game in question is *Kick Off*, and I can tell you now that it's a real corker!

If you're after a game that will keep you chained to your Amiga for months to come, then check out *Kick Off* (I never thought I'd see the day when I'd recommend an Anco game!). *Kick Off* is best played between two players, so grab a friend and dump a joystick in their hands everytime they come within a mile of your machine.

## A-MAX At Last!

The Amiga's first Macintosh Emulator has finally arrived. After many months staring at the advertisements in the American press, ReadySoft's A-MAX has finally arrived in the UK, thanks to Entertainments International.

I've only just managed to get my hands on one (it arrived on the same day that this column was written!) and so I can't comment on how well it performs. Look out for next week's *AmigaBLIT* for a complete run down on this groovy piece of hardware.

## Hard Facts for LORS

I recently recieved a letter from an irate Londoner, Iain Mackenzie, concerning

MirrorSoft's *Lords of the Rising Sun*. In the manual for *LORS*, is specifically states that the game can be backed up to hard disk using a supplied hard disk installation program. Iain bought the game, took it home and prepared to back *LORS* onto hard disk only to find that with the UK version of the game you can't.

Thankfully, for all of you suffering from the same problem, Iain was kind enough to include complete instructions on how to put *LORS* onto hard disk yourself.

Firstly, you must copy all the files from both *LORS* disks onto your hard disk (eg. COPY DF0: DH0: ALL). Next, edit your StartUp-Sequence to the following:

```
MOUNT DH0:
ASSIGN RisingSun1: DH0:
ASSIGN RisingSun2: DH0:
RUN MAIN
```

Note that you'll have to copy the CLI Mount command and the MountList file to your *LORS* boot disk. Now when you reboot your Amiga, after *LORS* has checked to make sure that the disk in drive 0 is an original, control will be transferred to your hard disk.

## Mouse resuscitation

Amiga owners will know that the first thing to go wrong is usually the mouse. The most common problem is malfunctioning buttons. These can be fixed as follows:

Firstly, open up your rodent and carefully remove the sticky tape holding the two mouse button leaf switches. Next, swap the pressure pads and re-apply the sticky tape. Put the mouse back together; chances are that your mouse buttons should now work fine!

Surely the other mouse button will stop functioning? Well the problem isn't just with the leaf switches, but the actual mouse button itself which can become worn. Thanks to David Collins in Kent for that tip.

Jason Holborn

```
10 REM **** GAUNTLET 2 CHEAT ****
20 CHECKSUM = 0
30 START = 262144:FINISH = 262271:GOSUB 60
40 RESTORE 270:START = 304:FINISH = 355:GOSUB 60 50 GOTO 100
60 FOR N=START TO FINISH STEP 2
70 READ A$:A=VAL("&H"+A$)
80 CHECKSUM=CHECKSUM+A
90 POKEW N,A:NEXT N:RETURN
100 IF CHECKSUM <> 758822 THEN PRINT "DATA ERROR":END
110 PRINT "PLEASE INSERT GAUNTLET II IN DF0:"
120 PRINT "EVERYTIME HEALTH REACHES 500, YOUR ENERGY WILL BE"
130 PRINT "KNOCKED BACK UPTO 25000"
140 PRINT "ACTIVATE THIS WINDOW AND PRESS <RETURN> TO RUN GAME"
150 INPUT A$ 160 CALL START
200 DATA 6100, 0036, 337c, 0002, 001c, 42a9, 002c, 237c, 0000
210 DATA 0400, 0024, 237C, 0003, 0000, 0028, 4EAE, FE38, 33FC
220 DATA 0000, 0003, 0088, 33FC, 0130, 0003, 013E, 4EF9, 0003
230 DATA 000C, 2C79, 0000, 0004, 93C9, 4EAE, FEDA, 45FA, 009C
240 DATA 2480, 43FA, 0086, 4EAE, FE9E, 43FA, 002E, 4280, 4281
250 DATA 41FA, 0014, 4EAE, FE44, 43FA, 001E, 45FA, 006A, 234A
260 DATA 000E, 4E75, 7472, 6163, 6B64, 6973, 6B2E, 6465, 7669
270 DATA 6365, 23FC, 4EB8, 013E, 0000, 0C90, 4EF8, 0800, 23FC
280 DATA 4EF8, 0150, 0000, 53C0, 4EB9, 0006, B534, 4E75, 0879
290 DATA 0001, 00BF, E001, 317C, 07D0, 000E, 4EF9, 0000, 53B6
```

## Throwing down the Gauntlet

Here are a couple of little cheat programs for those of you struggling to overcome the forces of evil in either *US Gold's* arcade conversion *Gauntlet 2*, or *Elite's* *Space Harrier*. Type the following into AmigaBASIC, save them (just in case!) and then run them. Note that you should turn off your Amiga before trying to use either of these cheats.

```
10 REM **** SPACE HARRIER CHEAT ****
20 CHECKSUM = 0:CHEAT = 1280&
30 FOR N = CHEAT TO 1348& STEP 2
40 READ A$:A=VAL("&H"+A$)
50 CHECKSUM = CHECKSUM+A
60 POKEW N,A
70 NEXT N
80 IF CHECKSUM <> 254217& THEN PRINT "ERROR IN DATA":END
90 PRINT "PLEASE INSERT SPACE HARRIER DISK IN DF0:"
100 PRINT "CLICK TWICE ON 'CANCEL' THEN PRESS <RETURN>"
110 INPUT A$
120 CALL CHEAT
200 DATA 2C78, 0004, 207C, 00FE, 88C0, 43F9, 0007, 0000
210 DATA 303C, 0145, 12D8, 51C8, FFFC, 22FC, DBFC, 0000
220 DATA 22FC, 007E, 4E5D, 32BC, 4E75, 4EB9, 0007, 001A
230 DATA 41FA, 000A, 2948, 0176, 4EEC, 000C, 31FC, 3E2E
240 DATA 3BE0, 4EF8, 38A0
```

WE ACCEPT EXPRESS VOUCHERS

# EALING COMPUTER CENTRE

WE ACCEPT EXPRESS VOUCHERS

19 Queen's Parade, Ealing, London. W5 3HU  
Telephone: 01 991 0928

**No. 1** Place for ATARI ST/AMIGA in West London - All prices inc. VAT  
**This Months Special Promotions**

**MEGA ST 1**  
**£499.00**  
**ONLY**

**PANASONIC KXP 1124 PRINTER**  
**£299.00**  
**ONLY**

**PROFESSIONAL PACK OF SOFTWARE**  
ST, "MS-WRITE", "VIP PROF", "SUPER-BASE", "PERS.", "BASIC"  
**£85.00**  
**ONLY**

## ATARI ST/MEGA

All with Starter Pack - Metacomco, ST Basic, Mouse Mat, Disk Box.

ATARI 520 STFM "EXPLORER" PACK" 1 Mb Drive .....£269.00  
ATARI 520 STFM "SUPER PACK" 21 Games + Organiser + Joystick.....£345.00  
ATARI 520 STFM "POWER PACK", NEW - 23 Titles  
incl. ORGANISES & MUSIC SOFTWARE .....£359.00  
ATARI 1040 STFM - 1Mb Memory, 1Mb Drive, TV Modulator .....£399.00  
MEGA ST 1 - with Blitter, Clock, Calendar .....£499.00  
MEGA ST 2 - NEW LOW PRICE!!! .....£749.00  
MEGA ST 4 - Most Powerful .....£1,049.00

Mono Monitor SM124 ONLY (with or without ST) .....£100.00  
Professional Pack - "VIP Professional", Microsoft Write", "Superbase Personal", Metacomco Basic Rev. B" .....with any ST EXTRA .....£50.00

SLM804 LASER PRINTER, Best Value, 90 days on site maintenance ..£1,095.00  
Hard Disk 20 Mb .....£349.00.....Hard Disk 40 Mb .....£449.00  
Mega ST2 Package incl. Mega ST2, SM124, SLM804, Professional Pack  
as above, 90 days on site maintenance .....£1,699.00  
Drive "Cumana" 1Mb, 3.5" Drive, with PSU switch .....£89.00  
Drive "Cumana" 40/80 Track 5.25" .....£129.00  
Atari SC1224 Colour Monitor .....£269.00  
Philips 8833 Colour Monitor inc. Cable .....£249.00

## AMIGA (with AMIGADOS 1.3, Workbench 1.3 etc)

Amiga 500+ TV Modulator + "Tenstar" - Amegas, Art of Chess, Barbarian, Buggy Boy, Ikari Warriors, Insanity Fight, Mercenary Comp, Terrorpods, Thundercats, Wizball + Mouse Mat, + Disk Box .....£389.00  
Amiga 500 + TV Modulator + Mouse Mat + Disk Box .....£359.00  
Disk Drive 3.5", Throughport, Switch .....£80.00  
RAM Expansion A501 + Clock Card .....£130.00  
BBC Emulator - Run BBC Software .....£40.00  
Philips 8833 Colour Monitor, Stereo, inc. Lead .....£249.00

## ATARI ST/MEGA SOFTWARE (in stock)

<b>TIMEWORKS (30% off RRP)</b>	<b>ANTIC (up to 30% off RRP)</b>
Data Manager .....£29	Spectrum 512 .....£42
Swift Calc .....£29	Cyber Studio .....£56
Data Manager Prof. ....£49	Cyber Control .....£42
Desktop Publisher .....£69	Cyber Paint .....£49
Word Writer .....£35	Cyber Sculpt .....£56
Partner ST .....£35	Cartoon Designs .....£25
1st Word Plus vers. 3 (new) .....£59	Video Titling Designs .....£25
VIP Professional .....£49	3D Developers disk .....£25
Microsoft Write .....£39	Cyber Texture .....£36

Over 1,000 Titles ST/AMIGA Software. Discount up to 33%. Mail Order only

## PRINTERS FREE Printer Cable on presentation of this AD

STAR LC-10 Best-Selling 144/36 Printer, 4NLQ Fonts .....£195.00  
STAR LC-10 Colour Version of above .....£245.00  
STAR LC24-10 24 pin, 170/56 CPS Printer, 8LQ Fonts .....£319.00  
PANASONIC KXP 1081, Reliable Printer, 120/24 CPS .....£165.00  
PANASONIC KXP 1180, Super New, 192/38 CPS,  
3400 Type Styles .....£199.00  
PANASONIC KXP 1124 - Exceptional, 24 pin, 192/63 CPS,  
6LQ Fonts .....£299.00  
(KXP 1180, KXP 1124 - Paper Parking, Original + 3 copies, A4 landscape)  
Citizen 120D - Best Value, 120/24 CPS .....£139.00

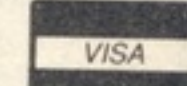
## ACCESSORIES ST/AMIGA

"INTEGRATER" - 20Mb HD, 3.5 Floppy, Power Station. Real Time Clock, Metal Case, and many more .....£745.00  
Scanner - Cameron, 64mm, inc. Paint OCR Software .....£199.00

Prices include Delivery for Software and small items. For Next Day Courier Add £6 (within M25) or £10 Mainland. - Above prices for Mail Order, Shop Prices may vary.



All offers subject to availability. - E. & O.E.



We are at the corner of Hanger Lane (North Circular)  
End Queens Drive - Easy Parking

**10 DISKS 3.5" DSDD ONLY £6.99** with any purchase of £100 or more. Lowest Price in UK?



# TEMPEST

(COMPUTERS) Ltd.

Thanks to the support of NEW COMPUTER EXPRESS Readers.

TEMPEST can now offer:

## EXTERNAL 1Mb DRIVES FOR ATARI AND AMIGA USERS

£65

Including VAT

TOP QUALITY NEC1036A 1/3 HEIGHT  
DOUBLE SIDED DRIVES

## INTERNAL NEC1036A - DOUBLE SIDED DRIVE UPGRADE YOUR MACHINE TO MODERN STANDARD

£45

Including VAT

## DISKETTE BARGAINS - LOW LOW PRICES

	10 1.5	25 1.4	50 1.35	100 1.3	200 1.25	MORE
3 1/2"	£7.20	£16.80	£33.00	£62.40	£120	CALL
5 1/4"	£2.25	£5.25	£10.31	£19.50	£37.50	CALL

"STAR" PRINTERS  
CALL FOR PRICES



TELEPHONE: 0272 574569 or 701544

E.O.S. HOUSE, 145 - 149 STAPLE HILL ROAD  
FISHPONDS, BRISTOL. BS16 5AG

TRADE ENQUIRIES WELCOMED



## EXECUTIVE COMPUTERS

77 BARRY AVENUE, INGOL, PRESTON. (0772) 723491

All Prices plus 15% VAT (Delivery £10 per unit)

Our Price £ 5 year lease per week

AMSTRAD PCW 8256	319.70	2.34
AMSTRAD PCW 8512	412.92	2.85
AMSTRAD PCW 9512	442.89	3.06

AMSTRAD PC 1640 S/D 20 Mb MONO	722.80	4.89
AMSTRAD PC 1640 S/D 20 Mb COLOUR	816.00	5.33
AMSTRAD PC 1640 S/D 20 Mb ECD	899.00	6.19
AMSTRAD PC 1640 D/D 32 Mb HARD CARD MONO	825.00	5.54
AMSTRAD PC 1640 D/D 32 Mb HARD CARD COLOUR	923.00	6.41
AMSTRAD PC 1640 D/D 32 Mb HARD CARD ECD	999.99	6.87

AMSTRAD PC 2086 3 1/2" DISC S/D 30 Mb 12" MONO	1099.00	7.18
AMSTRAD PC 2086 3 1/2" DISC S/D 30 Mb 14" COLOUR	1199.00	7.84
AMSTRAD PC 2086 3 1/2" DISC S/D 30 Mb 14" HI.RES.COL	1299.00	8.49
AMSTRAD PC 2286 3 1/2" DISC S/D 40 Mb 12" MONO	1296.00	8.47
AMSTRAD PC 2286 3 1/2" DISC S/D 40 Mb 14" COLOUR	1439.00	9.81
AMSTRAD PC 2286 3 1/2" DISC S/D 40 Mb 14" HI.RE.COL	1632.00	10.97
AMSTRAD PC 2386 3 1/2" DISC S/D 65 Mb 12" MONO	2544.00	16.93
AMSTRAD PC 2386 3 1/2" DISC S/D 65 Mb 14" COL	2688.00	17.97
AMSTRAD PC 2386 3 1/2" DISC S/D 65 Mb 14" HI.RES.COL	2880.00	18.98

## COMPUTER SPECIAL OFFER

640K S/D 20 Mb MONO	739.00	4.99
640K S/D 20 Mb COLOUR	871.00	5.69
640K S/D 32 Mb HARD CARD MONO	776.00	5.08
640K S/D 32 Mb HARD CARD COLOUR	907.00	5.93

Leasing is now the most popular method of equipment acquisition for sole traders, partnerships, local authorities, private and public companies alike.

## LEASE

MODERN EQUIPMENT WITH NO CAPITAL OUTLAY  
TAX DEDUCTABLE  
HEDGE AGAINST INFLATION  
PRESERVES EXISTING CREDIT FACILITIES

## YOUR FORMAT

MACHINE-SPECIFIC COLUMNS

# PC UPDATE

## Restricted characters

I came across an interesting problem with a batch file the other day. I had several 'echo' statements in a batch file one of which read something like:

Return to the A> prompt and...

For some reason, every time I ran the program none of the line would display. I began to have serious worries about my hardware. What was there in an echo statement that could cause a normal screen write to be ignored?

I tried a variety of ways around until a friend, who had become interested in the problem, suggested looking at each character in the offending line. As you can see from the extract above, the only character which is not a straight alphabetic is the '>' (greater than) symbol. How many readers have twigged what the problem was? In DOS, the '>' character is a redirection operator which sends the output of the preceding command to the succeeding device name. In this case the command was 'echo' and the succeeding device was taken to be a disk file called 'prompt'. The command was sending the start of the line:

Return to the A>

to this file, so that part wasn't displaying. Since the batch processor only allows one command per line, the rest of the line after the '>' was ignored.

The solution, of course, was to replace the '>' in the line with a ':', whereupon

everything returned to normal. The moral of this little tale is, as Sherlock Homes once said "When you have eliminated the impossible, what remains, however improbable, must be the case."

## SuperHelp

When you first buy a PC and start to use DOS it's very easy to become completely confused with the many different commands and operators that the operating system provides.

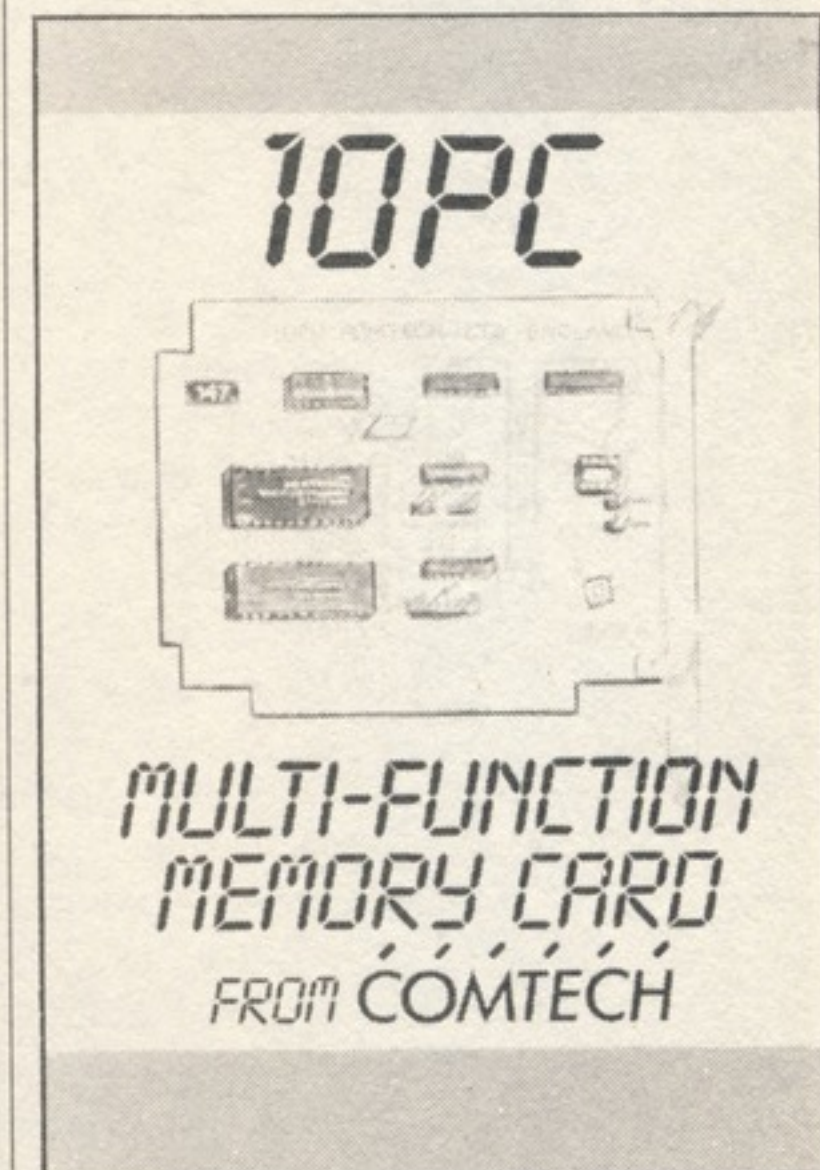
On-line help, which you can call up at the flip of a hot key, may be the answer. One such system for hard disk users (it takes up nearly a megabyte on disk) is *SuperHelp*, distributed by somebody in this country whose name was lost in transit (or it could have been a *Sherpa* or a *Renault Trafic*). The price is also unknown at this stage, though I'm sure lots of people will let me know as soon as they read this. Anyway, the program itself is very good, giving lots of details of DOS and including some animated descriptions, all in a pop-up package. Probably well worth the money!

## Wasted space

One of the bones of contention with PCs marketed with 1Mb or more of memory, is that a good part of the extra memory may be wasted due to the memory mapping of the PC. As it was designed, the IBM PC could address 1Mb of main memory, with up to 640K available to the user. All users have to give some of this over to DOS, so there's actually less than 640K available. The area of memory between 640K and 1Mb is broken down into small sections and assigned to various ports and video areas. There is, for instance an area of 64K assigned to displaying a CGA screen. There's also an area of 256K assigned to displaying an EGA screen. These two areas do not overlap, even though you're very unlikely to run a CGA and an EGA monitor from the same PC.

The assignments, or mappings as they're often called, fill all the available space and it's very hard to make use of it, even when you're not using the peripheral to which the space is allocated. There's a partial way round the problem which involves jiggery-pokery with the memory map to fit usable memory into the space above 640K. A combined hardware and software device called 10PC does this for you, and is especially useful if you have a Monochrome or CGA machine with 640K of memory. It contains 64K of RAM which it slides into the memory map in the area normally reserved for EGA displays. This gives you 704K which can be used by any program. The card costs £149 plus VAT and more details are available from Comtech on (04352) 5688.

Simon Williams



• 10PC: Hardware/software device to give you 640K PC another 64K of RAM

## Laptop Power

If you have a laptop, one of your continuing fears is that your battery will run out at an inconvenient time, when you're away from a mains outlet. Manufacturers invariably quote a figure which is generous, and allows for little use of your disk drives. It's worthwhile testing your batteries in the worst case condition, so you know how little time you actually have before your data will flit away into the ether.

Try the following little batch file:  
copy battest.bat + battest.bat  
battest.new  
copy battest.bat + battest.bat  
battest.old  
battest

Save it as BATEST.BAT, copy it to your laptop, charge up the battery, and unplug the mains. Now type TIME and reset the system clock to 00:00:00. Type BATEST and leave the system running until the battery and the machine go to sleep. Plug in the mains lead again and check the timestamps against the BATEST.OLD and BATEST.NEW files on the disk. They represent the total time the program was running.

The program is a good overall test for laptop usage as it uses the processor, the screen and the drives. As you can probably work out from the program lines, all the program does is to copy itself to two other files and then call itself recursively to repeat the job. The reason it copies itself to two files is in case the power goes down while the program is actually copying, and the file isn't correctly timestamped. The small error incurred by the time it takes to type BATEST at the start of the run is insignificant when the batteries are likely to last for over an hour.



# CPC Centre

## Thunderbirds are go!

Grandslam's got hold of one of the licences of '89: *Gerry Anderson's Thunderbirds*. And what good value you get! For £13 on tape and £15 on disc (now that's what I call a sensible price difference) you get double play and an audio cassette of that evocative, nostalgic theme music.

Furthermore the game itself is not the superficial flashy-but-trashy effort Tracy fans were fearing. There are four separate complex missions for you to undertake, each within a tight schedule. And the general tone of the thing is just right, too, with humour aplenty but no mickey-taking of our favourite woodentops - as if they'd dare! Gerry Anderson himself has been involved in the project, so it ought to be good.

Grandslam appears to be pinning its hopes on this being one of the great successes of mid-'89, and I'd say that on gameplay and value for money they should succeed. What

troubles me slightly is whether enough young people - and in this context that means the under 20s - are excited by the prospect of a game based on a long-extinct puppet series. It's beginning to look, these days, as if anything that was considered naff or irredeemably kitsch back in the '60s or '70s - *Batman*, *The Monkees*, *Thunderbirds*, *Bill and Ben* - is now hailed as a high point of western civilization in the mid to late twentieth century. What's happened, of course, is that time has given these often badly made and frequently desperately dull period pieces a sepia tint that obscures their mediocrity. Things aren't what they were: but then again, they never were.

Incidentally my friend Trent - who hardly seems old enough to suffer such a bad attack of nostalgia - fancies his chances on the next series of *Mastermind*, with *Thunderbirds* as his specialist subject. Anyone willing to challenge him to a competition, with a copy of the game as a prize? Write to: *Trenton Fancies Himself*, *New Computer Express*, 4 Queen St, Bath BA1 1EJ.

## Sound of silence

Just been playing EA's *Skate or Die*. It's fun, and I'd even go so far as to say I think they've done the right thing by Lester and his surfpunk sidekicks in opting for monochrome so they can fit more action in. All in all, a very creditable showing.

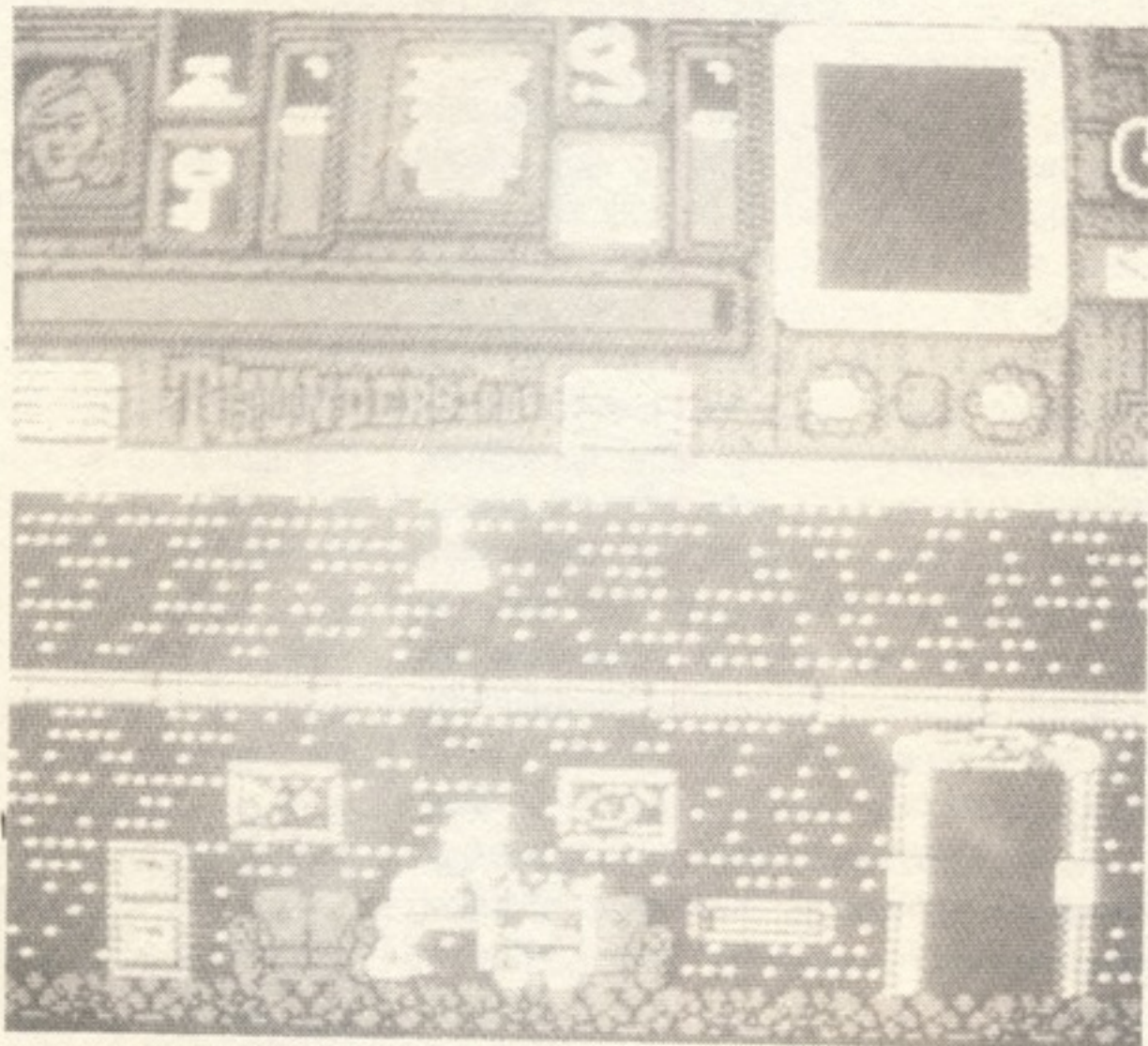
But... What I don't agree with is EA's decision to sacrifice the in-game sound to save what surely can't be more than about 5K of memory. I said a few weeks ago when I saw a preview that sound effects would make a big difference to the overall atmosphere of the game, and I stand by that observation.

Compare what they've done with Grandslam's *Thunderbirds* (see above) where not only do you get in-game effects but an

audio cassette of the theme tune too. Admittedly there was something there to begin with, but even so it seems to me that music and in-game effects are vital to the atmosphere of any game. Has there ever been a truly brilliant CPC title that didn't feature decent sound effects?

## A pair of briefs

A final reminder that it's not yet too late to enter the *CPC Centre* competition to win a free copy of Swift Software's £30 *Pandora*, the new machine-code program generator that means you can write professional quality games without knowledge of machine code. All you have to do is tell me who *Pandora* was - jot it down on a postcard, or the back of an envelope, and bang it off quick as you like, to: *Steve Carey's CPC Centre*, *New Computer Express*, 4 Queen St, Bath BA1 1EJ. Entries close at the end of the month.



• Calling International Rescue!

## The other brief

The keener-eyed among you will have noted that I was so thrilled by the *Gauntlet* poke I offered you free, gratis and for nothing in this column a couple of weeks ago that I gave it you twice.

Apologies - though I doubt any of you lot would be daft enough to type the thing in twice!

Steve Carey

## By Jiminy - no cricket!

The Aussies don't appear to be quite the pushover many of us were expecting, and we appear to be in for a thrilling Test series after all. But oddly enough there hasn't been a decent cricket simulator for the CPC (nor indeed for any other machine, as far as I know).

And yet you'd have thought cricket would be eminently suitable as a simulator subject - especially when you compare its poor showing against the veritable avalanche of soccer efforts that have cascaded upon us (God knows what it'll be like next year, with the World Cup and all). Audiogenic's Graham Gooch Test Cricket is about the best of a surprisingly poor bunch. (Unless, of course, you know different...) I'm at a loss to explain this state of affairs, and welcome any thoughts you may have on the subject.

Incidentally there's no truth, unfortunately, in the rumour that a CPC version of Anco's stupendously wonderful Kick Off is planned. It's a terrible pity, because as Rik "The Hitman" Haynes says it's "simply the best football sim we've played on any micro." Still, there's a Commodore 64 (boo!) version, so who knows? If enough of us make a fuss, perhaps we'll get lucky after all!

# NO COMPUTER IS COMPLETE WITHOUT A DUST COVER

Protect your valuable computing equipment from dirt and damage with a professional quality dust cover from BBD's extensive range. Manufactured from top quality washable nylon with stylish, contrasting piping on all seams.

### Exclusive Features include:

- Treated with a Flame Retardant and Anti Static inhibitor
- Non Crack and Non Tear
- Non Shrink and Non Fade
- Tailored Fitting
- Machine Washable

Full money back guarantee if not completely satisfied

A small selection from our very wide range of covers for Computers all made to the same high standard.

AMIGA 500.....£5.00	ATARI ST COLOUR.....£11.00
AMIGA 2000.....£11.00	ATARI ST MONO.....£10.00
AMSTRAD 464.....£8.00	BBC B or MASTER.....£5.00
AMSTRAD 6128.....£8.00	EPSON PC RANGE.....£10.50
AMSTRAD 1512/1640.....£10.00	IBM PC XT.....£10.50
AMSTRAD 2086.....£10.00	IBM PC AT.....£11.00
AMSTRAD 2286/2386.....£10.00	IBM PS2 MODEL 30.....£10.50
AMSTRAD PCW 8256.....£11.95	OLIVETTI PC 1.....£10.50
AMSTRAD PCW 9512.....£13.95	SINCLAIR PC 200.....£10.50
ARCHIMEDES.....£10.50	ATARI ST 520.....£5.00

BBD also offer a wide selection of other covers for printers, disc drives, photo copiers etc. Generally 80-column printers cost £5.50 and 132-column printers cost £6.50

### GOLDSTAR BRANDED DISCS

In keeping with our policy of dealing only in quality items BBD offer Goldstar Branded 3.5" discs at £13.95 per box of 10. These discs are 100% error free and carry a lifetime guarantee.

### PRINTER CABLES

We can offer IBM-Centronics (25 pin to 36 pin) for only £5.95

PLEASE NOTE: ALL PRICES INCLUDE VAT AND DELIVERY

# BBD DUST COVERS

Dept 41  
The Standish Centre,  
Cross Street, Standish,  
Wigan. WN6 0HQ

## Sheer Perfection in Computer Protection



Telephone: 0257 425839 ext. 41  
Fax: 0257 423909



Callers and Dealers Enquiries Welcome



## PC ENGINE SUPPLIES

PC Engines £165 (Works on any TV) with FREE game (up to £20) £4.00 P&P for the Engine

### THE FOLLOWING PC ENGINE SOFTWARE NOW AVAILABLE

Wonderboy.....£20.00	Vigilante.....£25.00
R-Type I.....£25.00	Dragon Spirit.....£23.00
Baseball.....£25.00	Watura.....£28.00
Victory Run.....£25.00	Son & Son II (NEW!).....£28.00
Chan and Chan.....£20.00	Dungeon Explorer (NEW!).....£30.00
Legendary Axe.....£27.00	Motor Roder (NEW!).....£27.00
Tennis.....£27.00	Winning Shot (NEW!).....£30.00
Alien Crush.....£27.00	P47 Freedom Fighter (NEW!).....£30.00
Fantasy Zone.....£27.00	We are now taking orders for the Sega 16 Bit
Galaga 88.....£25.00	Megadrive - price £180.00 with FREE game.

50p P&P for each Software Title

WE DON'T TAKE FULL PAGE ADS - WE PASS THE SAVINGS ON TO OUR CUSTOMERS

Please make Cheques and P.O.'s payable to:

PC ENGINE SUPPLIES  
223b WATERLOO ROAD, COBRIDGE,  
STOKE-ON-TRENT, STAFFS, ST6 2HS

WE TRY TO BE THE FIRST WITH THE LATEST SOFTWARE.  
TEL: 0782 284228 - Day. 0782 21993 After 6 pm.



# THIRD COAST ATARI HARD DRIVES & TAPE BACK UP DEVICES

**PROCESSOR ACCELERATOR  
FOR ALL  
ATARI'S AND AMIGA'S.**

**OFFERS 16 MHZ  
CLOCK SPEED,  
FULLY COMPATIBLE WITH  
ALL SOFTWARE  
APPLICATION,  
SWITCH BETWEEN  
8 AND 16 MHZ  
EXTERNAL 8K OF  
DATA CASH,  
SLOT FOR BLITTER AND  
CO-PROCESSOR 68881.  
OFFERS 85-100%  
PERFORMANCE INCREASE**

**£149.00**

Half Meg RAM Board for Atari 520  
**£49.00**

Half Meg Upgrade with Chips  
**£139.00**

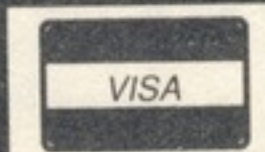
1 M/Byte for 520/1040  
**£60.00**

1 M/Byte for 520/1040 with Chips  
**£199.00**

4 M/Byte RAM Board for all 520/1040  
**£85.00**

4 M/Bytes of RAM on Board  
**£599.00 inc Board**

**THIRD COAST TECHNOLOGIES**  
Unit 8, Bradley Hall Trading Estate  
Standish, Wigan, WN6 0XQ  
Tel. 0257 426464  
Fax: 0257 426577



## YOUR FORMAT MACHINE-SPECIFIC COLUMNS



### Enigma variation

I often get letters from 128, +2 and +3 owners ranting about the way their machine rarely gets its extra 80K put to any use. Two devoted believers in 128K called Jon Rose and Hamish Rust have now decided to stop ranting and do something about it.

The result is *Enigma*, a new tape mag especially for those of you in the audience endowed with a larger memory. This dynamic duo were kind enough to let me have a looksee at their earliest attempt, and I'm suitably impressed.

The first issue has been shoehorned onto one side of a C90 cassette and comes complete with no end of twiddly bits in the form of an excellent soundtrack, numerous graphic FX and screenshots. These are really welcome and help it stand apart from more traditional paper efforts. The reviews section is particularly good with some hard-hitting views, obviously written by a Speccy gaming expert who knows his stuff, and a selection of screenshots which let you see how the game actually looks on your TV. Importantly, the reviews also inform you of any enhancements to the 128 version.

As well as the normal selection of news, views and tips there's also a section specially designed for techies. It seemed to impart some pretty useful info, although I'm no expert.

Something that's planned to be included on each issue of *Enigma* are separate programs and routines recorded after the main meat of magazine itself. In issue 1 this included a

### Enigmatic advice

*It's always nice to be able to help a fellow comrade with his Speccy-owning problems (everything else is best left to Marjorie Proops). David Sheldrake's list of problems appeared in issue 30, some of them were answered but an annoying few weren't. Well, as if by magic one half of the Editorial team behind the aforementioned Enigma tape mag has written in and answered them. That man is Hamish Rust.*

*David wanted to know about a +3 compatible assembler. Hamish unbiasedly suggests the one given away with Enigma 1 (ordering details above). On the problem of the +3 RAM paging this Scottish marvel puts forward the following:*

*LD BC,32765  
LD A,RAM PAGE (16, 17, 19, 20, 22 or 23)  
OUT (C), A*

*He points out that you must "keep the stack below 49152 as well as any code doing RAM paging (to move stack - LD SP, ADDRESS)".*

*Hmmm, yes, heaven knows what that means but I'm sure it's helpful. Readers put your hands together for Hamish!*

musical extravaganza from Players, some simple games and a full size assembler, no less. Good to see the tape-based nature of the mags being put to good use, and extras like the above certainly improve its value for money rating. The Eds seem keen to get the readership involved and the mag provides an excellent way for budding programmers to see their creations on screen.

*Enigma* only works on machines with 128K and initially is available on tape with the possibility of +D version. Hopefully, the

creative geniuses behind the project will get around to producing a +3 disk version, I'm certain the demand is there. Still, +3 owners and everyone else who thinks, like me, that the 128/+2/+3 doesn't get a fair suck of the pineapple is advised to purchase a copy forthwith. Each bi-monthly issue costs a reasonable £1.99 or £1.50 if you supply your own tape (C60/C90 length). The address for orders is Hamish Rust, 15 Westfield Road, Inverurie, Aberdeenshire. AB5 9YR.

### Sticky tapes

Here follows a warning for +3 owners, courtesy of Grant Punchard. He's been having problems with some +3 software whose save-game option only allows a save to tape and not disk. What with the +3's tape loading and saving being a bit erratic and everything this is a far from ideal situation.

Examples of troublesome games include Martech's *Catch 23* and CRL's *Jack the Ripper*. Apparently, Martech has promised to rectify this in the future, which is good news because, as Grant said in his letter "we do pay over the odds for +3 software and do expect it to support proper disk-based loads and saves, and not to be simply the cassette version transferred onto disk." Hear, hear!

Another possible source of blood pressure rise-inducing frustration is when a +3 release turns out to be a cut-down 48K version. As an example he cites the version of *Starglider* found on Beau Jolly's +3 *Supreme Challenge* compilation, which has none of the music or speech of the original souped-up version. Also *Elite*, included on the same compilation saves to tape. Enough to make any +3er go ARRRGGH!, or as Grant put it "GRRR!"

Hopefully no more examples of this obvious computerist policy will arise because, believe you me, we +3 owners are pretty mean when roused.

### Hot tips

I've got yet another selection of tips for you on a veritable cornucopia of games. Well, three anyway:

- **Barbarian:** Force your opponent into a corner and give him a few kicks to the nether regions. He soon dies. When you come to Drax, jump the first lightning bolt and roll into him. Pressing Symbol Shift and Extend mode slows things down.
- **Navy Moves:** When you see a marine, duck. They don't know you're there.
- **Airborne Ranger:** Go into the guard house



for a disguise. Sneak up to the PoW camp and if you are attacked run for it. Throw a grenade at the pyramid and walk over lever. Burn machine gun at top.

Many thanks to the managing director of Concept Software, head of the +3D user group, prolific letter-writer and teenage entrepreneur Lee Davis for those. Since his Public Domain software house was plugged in SPEX he has been inundated with orders. So much so, tape software has had to be withdrawn for the meantime. He also tells me that you can now send a blank disk with your order and get a fair amount of dosh knocked off. Probably the best way to get all the low down dirt would be to send an SAE to the address printed in *Express* 31.

Robin Alway



# SECTOR 64 SECTOR

## Coming soon

Just about to be released by Grandslam (also responsible for the *Running Man* licence) is *Thunderbirds*. The game is based on the cult TV series and its string puppets.

A game called *Thunderbirds* was released some time ago by Firebird, but met with mixed feelings from the media. But Grandslam's version looks like it will knock the socks off that outing. The game will cost £12.99 on cassette and £14.99 on disk. It includes two cassettes which have the four games on, plus an audio tape of the original *Thunderbirds* soundtrack to blast out on your hi-fi.

You can control two characters from the list on each level. If you can't remember any of the *Thunderbirds* characters, then here's a recap: Scott, Brains, Jeff Tracy, Virgil, Alan, Lady Penelope and Parker (who is controlled on Level Three).

The C64 version features music from northern lad (!) Ben Daglish, who has not been doing too much recently.

*Thunderbirds* will also be available on the Amiga.

## Dates

Coming up on September 27th is the Personal Computer Show at Earls Court. To be honest, we much preferred the show at Olympia, but as so many people attended that this year,

there was too much of a strain on the place. What we most hated about the PC show at Earls Court was the confusing layout. We were getting lost all the time! Never mind.



• Coming up in September - the Personal Computer Show. Will you be there this year?

## Help

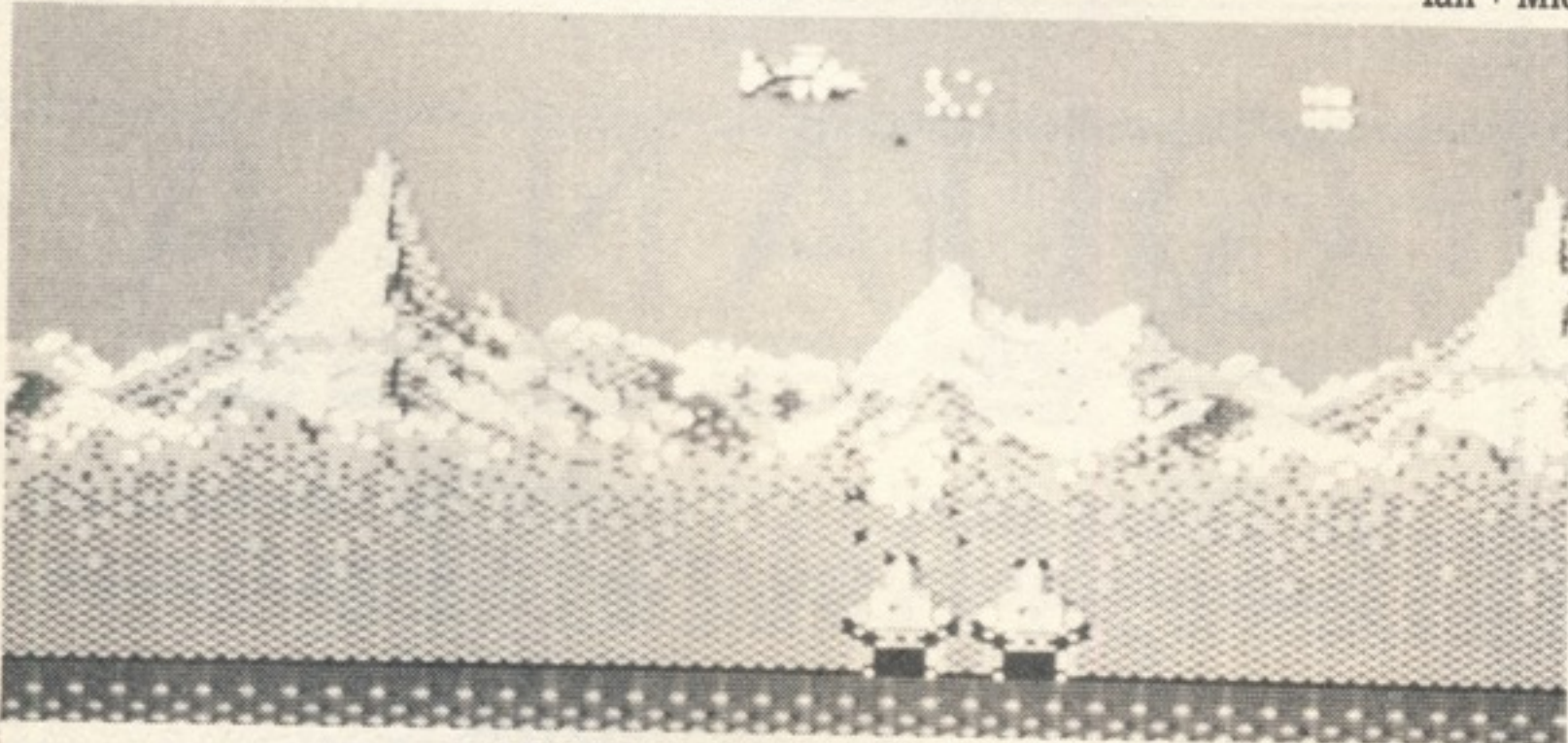
Sector 64 reader Ron James needs help for his Commodore 1520 printer/plotter. If anyone has any information on where Ron can obtain pens and paper rolls for the printer, then write to Sector 64. Who knows - if you actually sell the things, it could even be a bit of good publicity!

## Blast!

If you're looking for a cool shoot-'em-up this summer for your 64, then why not get your hands on *Silkworm*. Written by Random Access for Virgin, this a cool mixture of jumping and flying. The game is quite an old coin-op now, but nevertheless is quite stunning. The conversion comes complete with a smooth-scrolling background and cool graphics, and you control either a helicopter or a jeep on your mission of destruction.

The only thing that really didn't impress us was the sound effects - but overall, it's brilliant.

Ian + Mic



• *Silkworm* on the C64: Real cool for summer

## Directory listing

```

1 B=52992
2 FORL=0T0114:READA:POKEB+L,A:NEXTL
10 DATA 169,36,133,2,169,1
20 DATA 162,2,160,0,32,189
30 DATA 255,169,8,170,32,186
40 DATA 255,32,192,255,169,8
50 DATA 32,180,255,169,0,32
60 DATA 150,255,169,0,133,144
70 DATA 160,3,132,143,32,165
80 DATA 255,133,195,32,165,255
90 DATA 133,196,164,144,208,53
100 DATA 198,143,208,238,166,195
110 DATA 165,196,32,205,189,169
120 DATA 32,32,22,231,32,165
130 DATA 255,166,144,208,30,170
140 DATA 208,9,169,13,32,22
150 DATA 231,160,2,208,205,32
160 DATA 22,231,32,228,255,201
170 DATA 0,240,227,32,228,255
180 DATA 170,240,250,208,219,169
190 DATA 8,32,195,255,76,204,255
200 REM *****
210 REM * USE SYS 52992 TO DIRECTORY *
220 REM *****
230 SYS52992
  
```

Oh, wicked! Just what you need!

This listing is a directory routine, so that there's no excuse for saving your programs and quitting BASIC just to get a directory of a disk.

All you have to do is simply type the small listing in, and once done you can directory the disk onto screen any time you wish simply by entering the command "SYS 52992" (followed by RETURN).

It will then load off disk each name and print it onto the screen without entering BASIC. When the computer is doing a directory you can stop it at any time by pressing SPACE. This stops and starts the scroll.

## Write away

Your listings and ideas are welcome, so get pen to paper and send them in to the usual address:  
Sector 64, New Computer Express, 4 Queen Street, Bath BA1 1EJ.

## A SMALL SELECTION FROM OUR WAREHOUSE

### HARDWARE & PERIPHERALS (OFFERS WHILE STOCKS LAST)

	RRP	WAVE
Amstrad PCW8512 computer/word processor	516.35	451.81 ANC
Amstrad CPC6128 green with joystick & software	299.99	254.99 ANC
Amstrad CPC6128 colour with joystick & software	399.99	339.96 ANC
Spectrum +3 inc joystick & software	199.99	174.99 A
Fortune Super slim cassette/program recorder - +3/CPC	24.99	17.49 C
Lead, cassette recorder to +3 (2 jacks to stereo jack)	4.58	2.25 F
Lead, cassette recorder to CPC (3 jacks-din)	3.95	1.98 E
Psion Organiser II CM portable computer/calculator	99.58	71.96 C
DD-1 1st 3" drive inc Interface & cable - CPC464	159.95	126.36 B
Amstrad MP2 Modulator/PSU - CPC464/664/6128	29.95	23.96 C
DD-1 2nd 3" drive - CPC/+3 (6128/+3 also reqs DL-2)	99.95	85.14 C
DL-2 Cable - FD1 to CPC6128/+3	6.95	5.56 E
JY-2 Joystick - CPC	14.95	9.72 E
Romantic Robot Multiface 2+ - CPC	47.95	48.76 E
Lead, Printer Centronics Parallel - CPC/+3	14.95	7.48 F
Star LC10 parallel F&T NLQ printer (NEW LOWER PRICE)	297.85	184.35 A
AMX mouse with Stop Press - 6128	79.99	62.39 C
FABRIC RIBBON REINKING FLUID (AEROSOL)	8.95	6.71 E
RIBBON FABRIC-STAR LC10	PKT 2	4.60 F
RIBBON FABRIC-CITIZEN 120D	PKT 2	4.86 F

### BLANK DISKS & SOFTWARE

MOST CURRENT CHART GAMES SOFTWARE  
RETAIL LESS 25% + £1.15 P&P  
SEGA MASTER SYSTEM CARTRIDGES  
RETAIL LESS 15% + £1.15 P&P

Amsoft 3" discs DS/ALL 3" drives	Box 10	20.93	E
Maxell 3" discs DS/ALL 3" drives	Box 10	19.93	E
JVC 3.5" DS/DD 135TPI bulk discs	PKT 25	20.63	D
Verbatim 5.25" DS/DD 40/80T bulk discs	PKT 25	6.82	D



TEN BULK DISCS WITH LABELS IN THE NEW AMSCASE  
LIBRARY CASE RRP £37.85. OUR PRICE ONLY £18.93 D

REMEMBER IF WHAT YOU WANT IS NOT LISTED ABOVE, WE HAVE FAR TOO MANY ITEMS TO LIST HERE, AND ALL AT GOOD DISCOUNTS. SEND 3 19p STAMPS FOR LISTS. STATING FOR WHICH PRODUCTS.

Eng mainland post & ins. : (A) £5.75, (B) £4.60, (C) £3.45, (D) £2.38, (E) £1.15, (F) 58p (ANC) 3 day £18.35, next day £13.80, COD + £2.30, Max UK post charge £6.90 per 20KG/£500.

ALL PRICES INCLUDE VAT. All sales subject to our Trade Terms of Trading.

**W.A.V.E. (Trade Dept. NCE0106)**  
**Walney Audio Visual & Electrical Distribution**  
1 Buccleuch Street, Barrow-in-Furness, Cumbria LA14 1SR  
Tel: 0229-870000 (6 lines) Hours: Mon-Fri 10.00-5.00

## MERLIN COMPUTERS

### OUR PRICES ARE MAGIC

#### COMPUTERS

Atari 520 STFM Power Pack	£359.99
Atari 520 STFM with free Quickshot 2 joystick	£269.99
Atari 520 STFM Magic Pack	£375.00

The Magic Pack is the same as the Super Pack but with FREE Mouse Mat & 10 Disks

Amiga 500 Tenstar Pack: Ten FREE games and a FREE T.V. Modulator £379.99

#### MONITORS

Atari SM 124 Mono Monitor	£119.00
Atari SC 1224 Colour Monitor	£279.99
Philips CM8833 Stereo Colour Monitor	£289.99
Philips Tuner Module (for use with above)	£65.99

#### DISK DRIVES

Cumana 1 meg 3.5"	ST £109.00	Amiga £99.99
Cumana 1 meg 5.25" IBM Format ST only	£129.99	
Cumana 1 meg 5.25" Amiga only	£139.99	
Triangle 1 meg 3.5" ST only	£99.99	

#### PRINTERS

Amiga MPS 1250 with free cable	£139.99
Atari SMM 804 with free cable	£189.99
Epson LX 800 with free cable	£289.99
NEC P6 Plus 24 pin with free cable (for colour printing add £12.99)	£599.99
Star LC 10 with free cable	£199.99
Star LC 10 Colour with free cable	£269.99

Full range of ribbons also stocked please phone for prices

#### BLANK DISKS AT AMAZING LOW PRICES

10 3.5" DS/DD life time guaranteed .....£8.50

We also stock everything needed for 16-bit computers from printing paper to joystick extension leads.

P.C. Compatibles also stocked please phone for prices and availability.

All our prices include VAT & Postage



**MERLIN COMPUTERS**  
154 Uplands Ave., Connah's Quay,  
Deeside, Clwyd. CH5 4LG  
Tel: 0244 821843







**Base actions**

Sir Edward Elgar once said that it was straightforward composing music: you just "pluck it out the air, and take as much or as little as is required".

As most writing - especially non-fiction - involves repackaging essentially the same chunks of text over and over again (just read any computer magazine!), a writer's version of this would involve plucking your ideas from chunks of text (a database of 'free text') already stored on disc. Find the right bit, cut and paste the bit into your document, and away you go.

Encyclosoft has brought out two 'free text' databases - ideal for writers who manipulate several chunks of text at the same time. *Script2Base* works with *LocoScript 2* and *Text2Base* with *Protext*. They look good too - review next week. Meanwhile more info on 0270 811890.

**Snap decision**

**Photographer A:** This gypsy beggar with a crippled child came up to me in Madrid and asked me for a thousand pesetas.

**Photographer B:** What did you give her?

**Photographer A:** I had slide film so I gave her 1/125 at f8.

Now that it's summer you'll want some way of cataloguing all those holiday snaps.

*Fotocall Professional* could be the answer. Its a database specially designed for keeping tabs on your photos and is recommended by the British Association of Picture Libraries. Costs £24.95; details from **Pro-Am Software** at 28 Chestnut Ave, Maldon, Essex, CM9 7BA.

**Pigg book of records**

**Biggest file**

The biggest file on any commercially released piece of software was a 300K library file on Pecan's Pascal compiler released November 1988. This was so big it took several minutes to load and made use of the program virtually impossible.

● Know of any PCW superlatives? Send to: **The Pigg Book of Records, New Computer Express, 4 Queen St, Bath BA1 1EJ.**

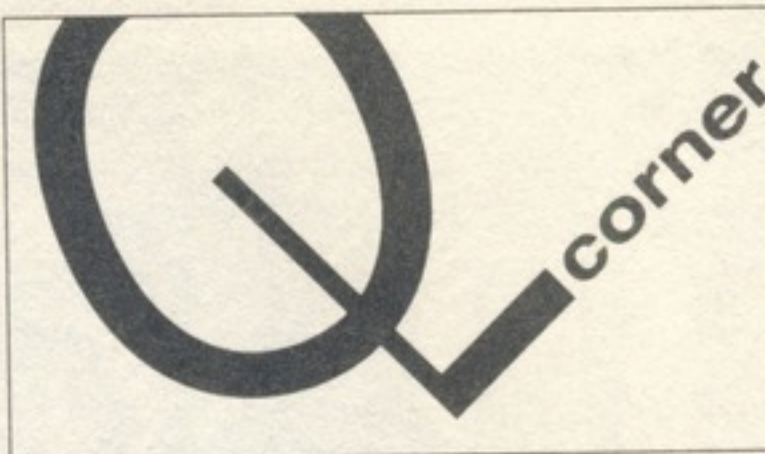
**A (bleep, bleep) tip**

Robin Cope of Winchester writes in to tell how much he enjoys *PCW Patch*, and wonders why we don't make it fortnightly, and why we bother having it at all. Thanks for that vote of confidence, Robin. He notes that the BASIC command OUT 248,11 will turn on a continuous bleep - perhaps useful for a "burglar alarm"? - and OUT 248,12 turns it off again. OUT 248,1 reboots the disk. "Maybe someone can find a use for these", he adds.

**Quids in**

Robin also notes that the 'Special Reserve' Club which advertises regularly in *Express* let you buy cheap PCW software. For £1.50 per disk postage and £4 a year subscription you can get bargains like *Clock Chess 88* for a fiver, *Mini Office Professional Plus* for thirty, *Armageddon Man* or *Catch 23* for four quid.

Basil Pigg



**B-Tree File Management**

Most file management systems use at least two files - a main file in which all the records are stored, and one or more index files, which contain keys, usually in the form of an ordered list.

B-tree indexing uses keys which are stored in a b-tree, somewhat similar to a binary tree, but giving much more efficient retrieval and storage.

**Lightning Special Edition**

Digital Precision's popular Lightning 'accelerator' program has been enhanced. It is now available on ROM, giving something like 25% - 30% more speed, as well as cartridge and disk.

You can now have different fonts in different windows, and pixel scrolling - that is, scrolling a pixel at a time, rather than a character at a time.

The price is £39.95, and £5 has been knocked off the standard version. DP is on 01-527-5493.

For programmers who want a set of b-tree routines that they can use with a conventional programming language, such as C, b-tree

packages consisting of a set of sub-routines are available for the PC, and some of these packages are even available in source code form, so can easily be ported to any machine with a C compiler.

When Leon Heller (former *Quanta* chairman) and I wanted a b-tree file management system for the QL, we looked around for a suitable low-cost package, and eventually chose the *Softfocus BTree* package available from Grey Matter for £80.

When we had transferred the package to the QL (it comes on a PC disk), we put all the source code through the *Lattice C* compiler, and encountered several problems due to the many bugs in that product. It took us two days to get it working.

How does it perform? We tested it with 3,000 records on a floppy disk, and any record could be retrieved in under two seconds. With 7,000 records on a QL equipped with the CST Winchester, retrieval times were something like one second.

The theoretical limits of the package are as follows: index files with up to 16.7 million entries, and data files with up to 16.7 million records. Key and record sizes are virtually unlimited.

Leon Heller has supplied several *Quanta* members who have purchased the package from Grey Matter with a library file of the compiled *BTree* routines, ready to link into their programs. Grey Matter is on (0364) 53499.

**More Bugs**

If you open the ser2 port (either explicitly, with the OPEN command, or, implicitly, with LOAD, COPY, etc.), the channel cannot be properly closed.

John Torofex

**RIBBON REFRESH**

RE-NEW YOUR OLD RIBBONS FOR 35P EACH  
1 TIN RE-NEWS UP TO 30 RIBBONS 8.95

**POWER SUPPLIES**

Commodore 64 .....17.99  
Spectrum .....8.99

**STORAGE BOXES**

40 cap .....3 1/2 .....4.10  
80 cap .....3 1/2 .....6.00  
50 cap .....5 1/4 .....4.10  
100 cap .....5 1/4 .....6.00

**DISK LABELS**

3 1/2 or 5 1/4 .....99p (100)

**BULK DISKS**

Lifetime guarantee  
3 1/2" DSDD 85p each.(min 10)  
5 1/4" DSDD 25p each.(min 25)

Sony Brand 3 1/2" DSDD  
(box of 10) .....10.99

**AMSOFT CF2**

2.25 each

ALL PRICES INCLUDE VAT

WE SUPPLY TO  
DEALERS, LOCAL AUTHORITIES, EDUCATIONAL  
ESTABLISHMENTS, PLC'S  
(OFFICIAL PURCHASE ORDERS WELCOME)

VOLUME DISCOUNT ON ALL ITEMS



ACCESS HOTLINE 091-5160065

**H.C.L**  
10A SOUTHWICK INDUSTRIAL ESTATE  
SOUTHWICK  
SUNDERLAND  
SR5 3TX



**QUANTA**

**QL Users and Tinkerers Association  
Independent QL/Thor Users Group**

Worldwide Membership is by subscription only,  
and offers the following benefits:

Monthly Newsletter - up to 40 pages  
Massive Software Library - mostly FREE!  
FREE Helpline, Workshops,  
Bulletin Board, Regional Sub-Groups  
- one near you?

Advice on Software & Hardware problems  
Discounts from most major suppliers  
Subscription just £14 for UK Members  
Overseas subscription £17

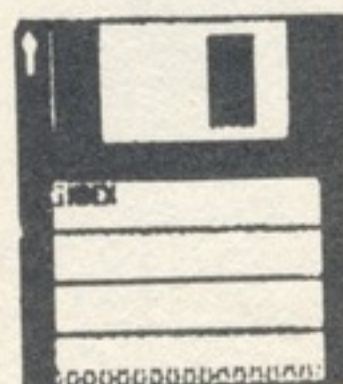
Barclaycard : Visa : Access : Mastercard

\*\* Now in our SIXTH successful year \*\*

Further details from the Hon. Secretary

**PHIL BORMAN**  
15 GROSVENOR CRESCENT  
GRIMSBY  
SOUTH HUMBERSIDE  
DN32 0QJ

TEL: (0472) 49850  
Prestel MBX 219994776







**Whale of a time**

Educational software house Topologika has several new programs out, including long-delayed *The Myth of Moby*, which is a three-part graphic adventure. Part of its *Whales and Dolphins project*, the package catches the flavour of the month with its 'green' feel. Also late is *The Curves Software pack*, which is not a manual for lechers, but an aid to teaching kids about maths. I notice also that PC and Nimbus versions feature in its other new offerings, *Catch up with your Punctuation*, and *Stock pack*.

Nidd Valley has combined and enhanced its *Illustrator* and *Colourbox* software into one package, called naturally enough *Illustrator-Colourbox*. Costing £59.90 including its own mouse, it's good value, but as the lager advert says, 'not that good!'

**A3000 MIDI**

If you're still not quite sure exactly what specs the A3000 machine has, then you're

**Conspiring to plot**

Schoolteachers pay attention, because you could win one of those sumptuous flatbed plotters for your school. Linear Graphics Ltd is organising the competition in support of the DTI's Design & technology programme. Get the details on 0686 29292.

probably not the only one. However I can clear one thing up for you. The MIDI interface is **not** built-in, but **will** be available as an internal upgrade, price to be decided.

**Warp factor nil**

I've already looked at *Return of the Jedi*, but I was still pleased to receive a pukka copy through the post. I was less pleased to see that no mention at all was made of the Beeb on the packaging, apart from a tiny little sticker. Makes you wonder how they are going to engender the forking out of money for the product doesn't it?

**High stakes**

People who gamble on horse racing never admit to losing money, so for them and others who can defy the implacable laws of statistics Blue Ribbon have brought out *Turf-Form*. At £2.99, less than the cost of a good Yankee it offers the gullible punter a chance to "Beat the Bookies" Their words, not mine.

**DTP snag**

Acorn's DTP package is now ready, but be warned all you A310 owners. Before you rush out to lay down £149 (plus VAT) the program really requires 2Mbyte of RAM to run well. Before you wail and gnash teeth however, I do hear rumours of a third-party memory expansion board for that machine. More details when I get them.

**Broad tip**

A neglected BASIC keyword is the WIDTH command. Use it when spooling listings for use in wordprocessors to avoid problems with wordwrap.

Andrew Brown



**Konami magazine**

At last it looks as if the Konami Software Club magazine has been distributed, although, as I write this week's column, I have yet to receive my copy. Talking to Mark Smith, the mag's editor, it seems that all members should have received the magazine by now, but he had to admit that a few members had phoned him asking where their copy had go to.

The only explanation he could come up with was that they were using a new company for the distribution of the magazine, and they seemed to be having a few problems. He apologised for the delay, and hoped that by the time you read this all members will have received their copy.

Regarding software from Konami for the MSX user, it seems that it will be placing more emphasis on producing software for the games consoles, such as the Nintendo. This does not mean that Konami has finished with the MSX, but it is possible that we will only see one more title from them this year.

**Turning Japanese**

Some good news regarding software is that more and more titles seem to be arriving from Japan, and games such as *Barbarian* and *Terropods* have been converted to the MSX. As soon as they are available in the UK, you're sure to read about it in this column.

**Joysticks plus**

De Gale Marketing has now enlarged its range of joysticks, as witnessed in issue 30 of Express. I mention this fact again because De Gale Marketing points out in the press release for these products that all the joysticks in this range are true MSX joysticks, and have the independent fire button feature that many MSX cartridge games require.

Prices for the four joysticks in the Quickjoy range start at £8.95 for the Supercharger, up to £19.95 for the top of the range Quickjoy V Superboard.

**Self drive**

Fancy building yourself a disk interface that will allow you to use any Shugart disk drive on your MSX computer? Well, in this month's MSX TECH newsletter, detailed instructions on how to build this device are presented.

This is not a task for the complete novice, I can assure you, but for anyone with a little technical knowledge, the task isn't too daunting.

The main problem will be obtaining the MSX Disk Operating System, although it does say in the article that Sony would probably sell you a Rom if you asked nicely. If you can build one of these interfaces you are bound to save yourself quite a bit of cash, as you should be able to build the interface, and add a disk drive, all for under £100.00. Even a second hand MSX drive, and interface would set you back more than £150.00, so this project, and how to obtain a copy of the MSX TECH newsletter, send an SAE to J Whiting, 8 Blackheath Crescent, Bradwell Common, Milton Keynes.

Keith Neal

**MICROBYTE**

Now Open in **Birmingham and Nottingham**

To claim your **FREE** Microbyte Club membership, just complete the form below and take it to your nearest Microbyte

As a member of the Microbyte Software Club you will receive:

A Personal Membership Card

A **FREE** copy of the "CLUB MICROBYTE" Magazine

Preferential Discounts on selected software

Plus many other benefits

Call in today, you won't regret it - and don't forget the form!

**NOW OPEN!!**

424 Grand Parade, The Bull Ring Centre, **Birmingham**

Upper Broadwalk, The Broadmarsh Centre, **Nottingham**

46/47 Greenmarket, **Newcastle**

56 Garden Walk, The Metro Centre, **Gateshead**

Unit 176 Halle Mall, The Arndale Centre, **Manchester**

29 Queen Victoria Street, **Leeds**  
1 Kirkgate Mall, The Kirkgate Centre, **Bradford**

27 Goosegate, Hockley, **Nottingham**  
33 Kirkgate, **Wakefield**

Name .....

Address .....

.....Postcode .....

Computer Owned.....



# EXPRESS EXPRESS EXPRESS

# SALES

## MISSION IMPOSSIBLE BBS

Megabytes of files to download  
24 hours a day  
Resident professional systems  
engineer for tech queries  
Latest US files available  
Rip-off suppliers section  
**0 6 0 2 - 6 5 4 3 2 9**

## EURO ST/AMIGA

State which Computer  
**HIRE AND PLAY LATEST ST HITS  
FOR ONE WEEK!**  
UK and Irish ST/AMIGA owners  
Send your address  
for more information to:  
**EURO ST, KINSELLA HOUSE,  
JOHNSTOWN, SEA ROAD, ARKLOW  
CO. WICKLOW, EIRE.**

## ★ INTRODUCTORY OFFERS ★

**PCW 9512 Carbon Ribbon £2**  
(only one per customer)  
**Fabric Ribbons Re-inked**  
(most makes) £1 each

**ALADDINK, (Dept. CE)**  
Eyemouth, Berwickshire, TD14 5AP  
Telephone: 08907 50965

## BLITSOFT Amiga Public Domain Club

Yearly subscription of £5 gives you  
★ Our 2 self booting catalogue disks (updated FREE)  
★ FREE disk of your choice  
★ FREE disk for every 3 purchased  
★ Disk swap scheme  
All our disks are £2.50 incl. and include Fish, Taifun  
and our own Blit disk. Rapid return on all orders

Send Cheques/P.O.'s to:  
**BLITSOFT, 6 Dorney Place,  
Bradwell Common, Milton Keynes,  
Buckinghamshire. MK13 8EL**

## ATARI ST PUBLIC DOMAIN

Wordprocessors, Games, Utilities, Music,  
Languages, Art, Educational  
and even DTP progs from £1.75!  
You'll be amazed at our Premier Service.  
For a FREE catalogue send a 19p stamp to:  
**ALPHA COMPUTING**  
32 Meadow Drive, Halifax, W.Yorks HX3

## NOVA

THE British Amiga Disk Magazine.  
News, Reviews, Special Offers, Programs Articles PD.  
Programs **AND TEXT** compressed by up to 65%!  
Out Now - Only £6 for **THREE DISKS** including FREE  
program disk. Cheques/P.O.'s payable to **NOVA**.  
**NOVA**  
4, Octavian House, Dashwood Road,  
Banbury, Oxon. OX16 8HD

## AmiMail Order

### SPECIAL OFFERS, LIMITED NUMBERS, PHONE FOR AVAILABILITY

★ ★ ★ Deluxe Paint III.....	£65 ★ ★ ★	} Includes VAT & P&P in the UK
★ ★ ★ Deluxe Music Construction Set.....	£45 ★ ★ ★	
★ ★ ★ Photon Paint.....	£30 ★ ★ ★	
★ ★ ★ Workbench 1.3 Upgrade.....	£10 ★ ★ ★	
★ ★ ★ RF Modulator.....	£14 ★ ★ ★	

Amimail Order, 3 Stonechat Close, Meadow Court, Durdorf Road,  
Petersfield, Hampshire GU31 4RE. Telephone: (0730) 69273 after 5pm

## COMPUTER REPAIRS & SALES

### ★ AMIGA ★ ATARI ★ COMPETITIVE PRICES ★

All types of home computers: Amstrad, Sinclair, etc. - prices from £7.00 inc. VAT and post  
and packaging and three month guarantee.  
Also available: spares, software, cables, peripherals, etc.  
**SALE OF AMIGA AND ATARI COMPUTERS.**  
Tel: (0702) 618455 for immediate estimate

**THE COMPUTER FACTORY, Analytic House Unit 18A,  
Grainger Road Industrial Estate, Southend-on-Sea, Essex.**

## PUBLIC DOMAIN SOFTWARE AND SHAREWARE

Extensive ranges of Public Domain Software &  
Shareware available for the following Computers

### IBM PC & Compatibles

including Amstrads  
£2.95 per 5.25" disk £4.50 per 3.5" disk

### COMMODORE 64 & 128

at £2.95 per 5.25" disk

### Commodore AMIGA

from £3 per disk

### Atari ST

from £2.80 per disk

Please send SAE or phone for a catalogue.  
Please state your make of computer

## KINGSWAY COMPUTERS

140 Rushdale Road, Sheffield, S8 9QE  
Telephone: 0742 588429

## E.M.P.D.L.

Amiga Public Domain Library  
Open 7 Days, 9am - 9pm

Over 500 Disks in Stock!  
Immediate Despatch on all orders  
£5 per year subscription includes 2 Catalogue  
Disks (regularly updated FREE), Range of  
accessories etc. Write now for Details

Cheques & P.O.'s payable to:  
**E.M.P.D.L. 54 WATNALL ROAD,  
HUCKNELL, NOTTS 0602 630071**

## COMPUTER REPAIRS

Specialists in Home and Business Computers, all makes repaired.  
ATARI, AMSTRAD, COMMODORE, SPECTRUM, SINCLAIR etc.  
Atari Approved Service Centre.  
We also repair printers, monitors, disk drives etc.  
FREE estimates, all work fully guaranteed.

**A.M.C., UNIT 4, WESTON ROAD INDUSTRIAL EST.  
STRATFORD-UPON-AVON, WARKS, CV37 0AH  
0789 292269**

## £8.00 for 10 DS/DD 3.5 Disks

DS/DD Unbranded (Verbatim manufactured).  
£8.00 per ten inc. VAT, P&P. Full lifetime warranty.  
Sameday despatch: Guaranteed cheques/P.O.'s  
Best prices coming soon on Verbatim branded disks.  
Send s.a.e. for prices.  
Please note we have changed our name  
**JOY OF LIFE ARTS: 45 ELSWICK, SKELMERSDALE,  
LANCS. WN8 6BX. TEL: 0695 24732**

## SINCLAIR SPARES, LEADS, PSU's

Original Manufacturers Spares.  
Send 1st class stamp for price list  
**ACE REPAIRS, Outways Fm, Pelynt,  
Looe, Cornwall, PL13 2NW.  
Tel: (0503) 20282**

## ★ SPECIAL OFFER ★

Buy any Amiga/Atari Pack and receive our FREE  
special Starter Pack which includes 20 Public Domain  
Quality Disks OR receive an EGA Card  
when you buy an Amiga B2000.  
Existing Amiga Users Can Obtain Our Special Pack For  
£20.00 inclusive.  
Amiga PD Disks £3.00 each or 10 PD Disks £15.00  
AT Bridge Board Available.  
Please ring for details

## QUADSOFT COMPUTERS

Unit 306, 203/213 Mare Street, London, E8 3QE  
Tel: 01 533 5116/ 0860 564231

## S.F.A. COMPUTERS AMSTRAD-COMMODORE-CAMBRIDGE

### Star LC10 Printer £169.00 + VAT

Phone now for best prices  
Access accepted  
Unit 15, Abbey Mill Business Centre,  
Seedhill Road, Paisley PA1 1JN  
Tel: 041 - 840 - 1477

## CLEARANCE TOP DISK GAMES!

Atari ST	from	£4.50
Amiga	from	£5.00
CB 64 Disk	from	£4.00
Amstrad Disk	from	£4.00
Spectrum +3	from	£4.00

All stock brand new & guaranteed. Send stamp for list.  
S.J. SOFTWARE, Unit 25, Arkwright Ct., Blackpool,  
& Fyled Industrial Estate, Blackpool. FY4 5DR  
**0253 64353**  
Wholesale enquiries welcome

# WANTED

**ALL COMPUTER  
HARDWARE/SOFTWARE WANTED  
FOR CASH OR EXCHANGE  
NOTHING REFUSED!!  
01 727 0424**

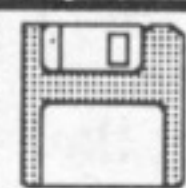
## 3 1/2" DISKS

### EVEN BETTER DISKS - EVEN LOWER PRICES

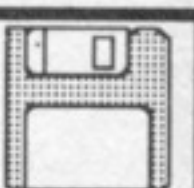
10	x 3 1/2	DS/DD	.....£8.50	Ordering 100 disks or less? User our credit card hotline. <b>Access - 0742 726485 - Visa</b>  Trade enquiries welcome. Dial our M.D direct on <b>0836 777592</b>
25	x 3 1/2	DS/DD	.....£19.00	
50	x 3 1/2	DS/DD	.....£37.00	
100	x 3 1/2	DS/DD	.....£73.00	
250	x 3 1/2	DS/DD	.....£170.00	
500	x 3 1/2	DS/DD	.....£325.00	
1000	x 3 1/2	DS/DD	.....£640.00	

**SAME DAY DESPATCH. PRICES INCLUDE VAT AND NEXT DAY DELIVERY.  
OUR DISKS ARE CHEAP BUT THEY ARE TOP QUALITY - LIFETIME GUARANTEED.**

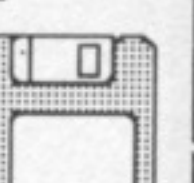
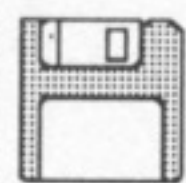
**HARDWARE DISTRIBUTION (dept NCE)  
19 DIVISION STREET, SHEFFIELD, S1 4GE  
0742 726485**



## MICRO - TECH



### COMPUTER TECHNOLOGY COMPUTERS BOUGHT, SOLD AND EXCHANGED




Second-hand ST & Amiga Software  
Plus all the latest titles

**New shop now open at  
96, Seaside  
Eastbourne**

PC'S, XT'S, AT'S, 286 and 386  
Sold and Network Systems Installed


**0323 411 391**






### MAIN MEDIA

FREEPOST, ANDOVER, HANTS. SP10 4BR  
Tel: 0264 333830 (24 hrs)



**UNBRANDED LIFETIME GUARANTEE**



	QUANTITY	10	20	30	40	50	100
31/2" SS/DD	135TPI	£7.95	£15.50	£22.75	£29.50	£35.75	£69.95
31/2" DS/DD	135TPI	£8.50	£16.50	£23.95	£31.25	£37.95	£74.95

	QUANTITY	25	50	100	250	500
51/4" DS/DD	48TPI	£7.25	£13.95	£26.95	£64.95	£124.95
51/4" DS/QD	96TPI	£7.95	£15.50	£29.95	£77.50	£139.95

All 31/2" Disks come complete with labels. All 51/4" Disks supplied with Write Protect Tabs, labels and envelopes and come with our No Quibble Money Back or Replacement Guarantee.

Main Media, 1 Weatherby Gardens, Charlton, Hants.

#### DISKETTE STORAGE BOXES

	Price Each
50 x 51/4" Hinged Lid Lockable	£5.50
100 x 51/4" Hinged Lid Lockable	£7.50
140 x 51/4" Hinged Lid Lockable	£9.50
50 x 31/2" Hinged Lid Lockable	£5.50
100 x 31/2" Hinged Lid Lockable	£7.50

#### DISK BOXES WITH DISKS

50 x 51/4" Hinged Lid Lockable with 25 DS/DD	48TPI	£11.95
50 x 51/4" Hinged Lid Lockable with 25 DS/QD	96TPI	£12.75
100 x 51/4" Hinged Lid Lockable with 50 DS/DD	48TPI	£20.95
100 x 51/4" Hinged Lid Lockable with 50 DS/QD	96TPI	£22.50
140 x 51/4" Hinged Lid Lockable with 100 DS/DD	48TPI	£35.95
140 x 51/4" Hinged Lid Lockable with 100 DS/QD	96TPI	£38.95
50 x 31/2" Hinged Lid Lockable with 20 DS/DD	135TPI	£21.50
100 x 31/2" Hinged Lid Lockable with 50 DS/DD	135TPI	£44.95


All prices include VAT and Carriage. All Goods despatched within 24 hours subject to availability.

**Cheques/P.O.'s to: MAIN MEDIA**

**FREEPOST**

**ANDOVER, HANTS. SP10 4BR**

**Tel: Credit Card Hotline 0264 333830 (24 hrs)**



# ARCHIMEDES LORE

## Showtime at the Alexandra

Only one more month and the 1989 BBC Acorn user show will be in full swing. It's being held in the west hall of the Alexandra Palace in Wood Green, London between the 21st and 23rd of July. Opening times are 3pm-9pm on Friday 21st and 10-6pm on Saturday and Sunday 22nd and 23rd. Entry charges are adults £3.50, children under 16 £2.50, with a pound off if you buy the tickets in advance.

The show promises to be very interesting to all Acorn users, with approximately 80 exhibitors and 100 stands covering a wide range of products including the latest hardware, software and peripherals.

This is the biggest ever Acorn-specific show, and representatives of all the major software and peripheral manufacturers including Watford Electronics, Computer Concepts, Minerva Systems and Clares Micro Supplies will be there.

It's here that the new A3000 will be on sale for the first time. There will be lectures and seminars from Acorn's own experts and plenty of razzmatazz.

### Hot hints

You may remember I asked for a wrinkle to increase the speed of the machine as a joke -

who needs a speed increase when we have the fastest micro available to the home owner anyway? Well, I had a letter from Matthew Treagus of Southampton which wiped the smile off my face. There is a way to increase Archie's speed and here's how to do it.

Simply fire up BASIC and type SYS "OS\_UpdateMEMC",64,64. By entering this line, the ROM clock speed is doubled, matching the RAM clock speed. Unfortunately, this only works with some machines (those with fast enough ROMs). ROM chips will become warm if you push them at double the speed, so use this tip at your own risk (!).

### Wot, no DTP?

*I'd hoped to be able to get a copy of new Acorn's new DTP package for this week - unfortunately I still haven't got it, sorry! I shall try to get the package for next time.*

### Share and share alike

As with any newish machine, there isn't much software around for the Archie and what's available is relatively expensive so how about some cheap shareware products. Shareware is software that you receive for free, try out, then if you like it, send off a small donation to the author who will keep you informed of upgrades, send you full manuals etc.

Norwich Computer Services have produced 13 shareware disks to date. Priced around £3 each, the disks contain approximately 800K of utilities and other programs. You can contact Norwich Computer Services on 0603 507057. The company also produces a magazine Archive. More details on the number above.

See you next time.

Lucy Brown

# PROGRAMMERS

Incentive Software Limited have two new vacancies for professional programmers with experience of assembler programming using the Z80, 6502 or 8086 processors.

This is your chance to join our fast growing and friendly in-house development team, creators of the award winning **TRUESCAPE**® Solid 3D System, to work on exciting new entertainment, demonstration and television software projects.

The successful applicants will enjoy an excellent salary with bonuses and other benefits.

Incentive Software Limited has been established for 6 years now and is committed to innovation, originality and quality.

Please send details of your experience and/or CV to:-

Ian Andrew, Managing Director,  
Incentive Software Ltd, Zephyr One,  
Calleva Park, Aldermaston, Berks. RG7 4QW.  
Telephone: (0734) 817288.


incentive  
 SOFTWARE LTD

## PACIFIC SOFTWARE

require talented game programmers for Atari ST, who are experienced in one of the following:

1. 68000 Programming
2. Sprite Design
3. Games Design
4. Music Composition
5. Graphics
6. Software Protection

If you feel you are competent in any of these aspects of computing, please write to us giving if possible, a sample of your work and instructions to:

-----  
**PACIFIC SOFTWARE**

**37, Larch Road,**  
**Birkenhead,**  
**Merseyside,**  
**L42 0JG**





# TECH TIPS

**Problems with your computer? Express's Agony column has the answer. Write in strictest confidence to Uncle Techtip.**

**Best tips win a freebie - so don't forget to tell us your address and machine**

## HELP!

### Monitoring progress

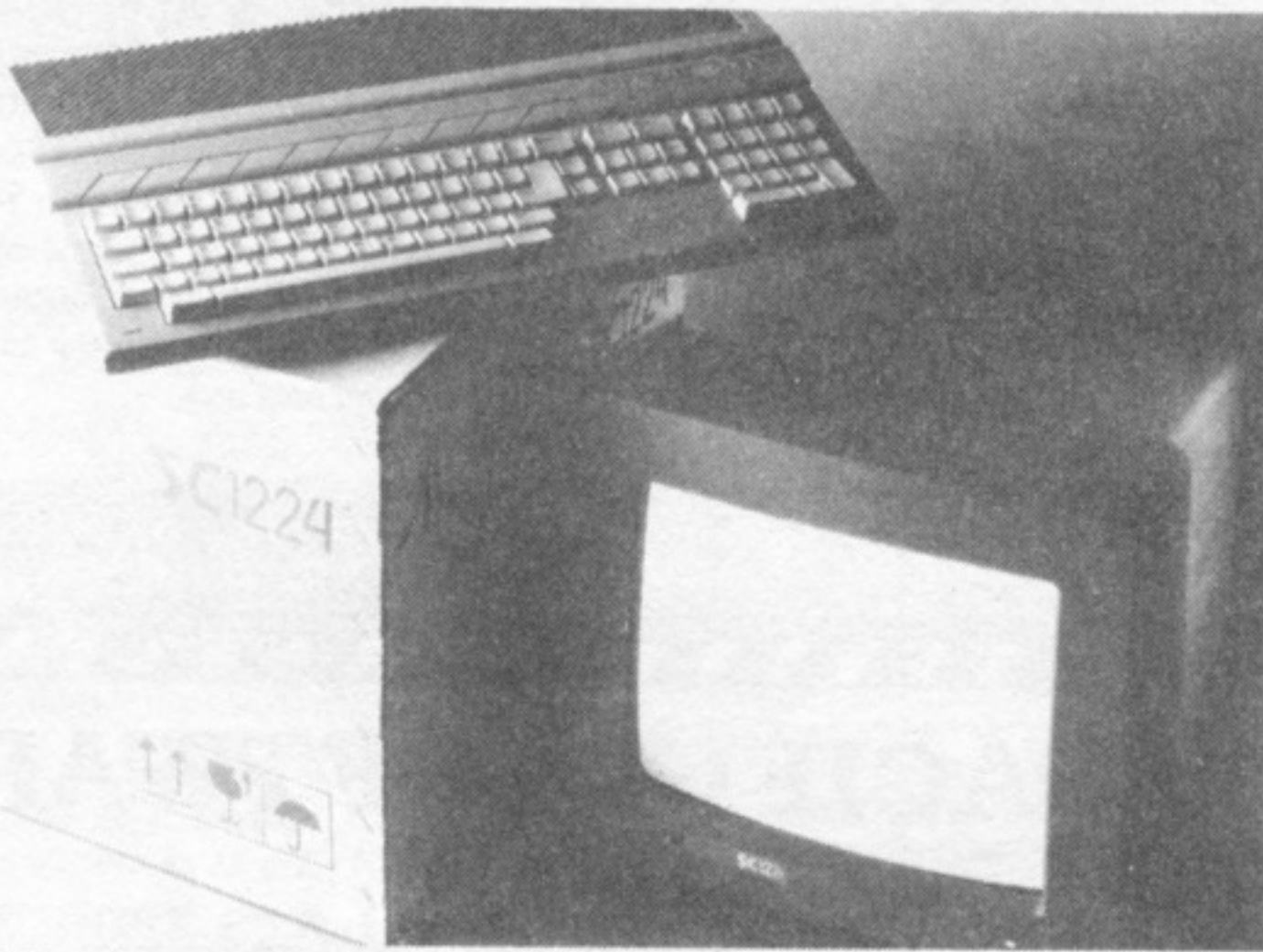
I'm on the verge of buying an Atari ST and until last month was satisfied that my impending purchase would be great, for along with the ST, I was going to buy a colour monitor and printer. However, last month, I saw an article on multi-synch. monitors

Or output to a TV? Can the TV show all the modes?

I'm going to be using the ST mainly for games but also want to run some serious word processing stuff.

I realise that this is easy-peasy stuff, but no less confusing to me for that! Finally, does software give you a choice of output mode?

Kevin Crocombe, Cleethorpes



• The Atari ST offers three graphics modes - can one monitor cater for all of them?

which completely confused me.

Am I right in thinking that the ST has several 'discreet' modes of monitor output? If so, do you have to have a different monitor for each one? Is a multisynch my best option?

• The Atari ST does indeed offer several display modes and to view all of these you must have two distinct screen types. The modes themselves are high resolution, medium resolution and low resolution.

The low and medium resolutions can both be viewed using a domestic television set or ordinary colour monitor, but to make use of the high resolution mode you must have a high-res monochrome monitor. A - more expensive - multi synch monitor will allow you to display all modes. If you plump for the colour monitor/TV as your display then you can still make use of the high-res mode by obtaining a utility from the public domain (try Alpha Computing 32 Meadow Drive, Halifax, West Yorks) which fools the ST into thinking it has a monochrome monitor attached.

A TV set is fine for games, but will soon strain your eyes if you plan to word process for any length of time. Buy a multisynch monitor if you can afford it, if not, then an ordinary colour monitor.

## HELP!

### Writing games

This is not really a technical problem as such, but I hope you can help. I have mastered Amiga BASIC and want to upgrade to a better language such as assembly or machine code. I am very keen on writing games like R-Type etc, and I would appreciate it if you could tell me all the necessary items I would require to write games and some good books to go with it.

Also will it be possible to transfer the music from Aegis Sonix into this language? Yet another question is, if I designed sprites using DeLuxe Paint 3, would I be able to include these in the language?

I'll understand if you don't answer this letter, since you probably get hundreds of letters from budding games writers.

Derek Stacey, Ayrshire, Scotland

• Have you heard of the STOS BASIC language product for the Atari ST? STOS is a replacement BASIC which has lots of extra commands to enable you write arcade or any other types of games, which runs very fast and looks good. As well as the STOS BASIC package itself, there are a sound sampler, sprites collection and compiler for the BASIC - all at reasonable prices.

Soon (very soon, I'm assured) Mandarin Software will launch a version of this language for your Amiga. Known as AMOS, it will allow you to write the kind of games you want easily and effectively. For more information call Mandarin on 0625 878888.

## HELP!

### Hot cross assembling

I am interested in writing machine code programs on my Amiga, but for use on my C64. Is it possible to develop 6502 code on the Amiga (what software would I need and where could I get it from) and connect the two machines together via the RS232 port to transfer my projects onto the C64 for testing?

Christopher Gill, Flint, Clwyd

• If you mean that you'd like to test the programs under a 6502 emulator running on your Amiga, then unless there's an emulator lurking in the public domain, I'm afraid you're out of luck. I know of no emulator to allow you to run 6502 code on an Amiga.

If you simply want to write the code using your favourite Amiga text editor then port it across to the C64 via a serial cable, then this is feasible, although a little long-winded and pointless. Stick to the C64 and a good assembler to write your source code. The keyboard is usable, there are plenty of good text editors around (or you can use the one that comes with the assembler) and 6502 code is the machine's native language. It'll be faster and easier than using an emulator (even if you can find one).

## HELP!

### Stopped in its tracks

I've just purchased a copy of Lombard RAC Rally and to my disappointment it did not work. When the game loads, it stops half way through a stage and you can't get out of it. But then if you load the game in again you can play it until three bombs appear. I analysed the disk with a disk editor and found track 79 to be damaged. A friend of mine purchased a copy of Lombard as well and exactly the same problem occurred - track 79 again! Do you think it could have been a faulty batch of disks or could it be a virus, if so why do the three bombs appear?

• You've got me! There's no news of a faulty batch of disks and I think the idea of a virus is unlikely. If a virus was present then you'd almost certainly receive a message of some kind. Did your friend experience difficulty with their disk on your machine, or did it refuse to work on both yours and their computers? If any Techtipers can shed some light, call me...



• Mandarin's Lombard RAC Rally. Is it bugged?

## HELP!

### Feed the PET

I have recently been fortunate to lay my hands on a 3032 model CBM PET

## BUG OF THE WEEK

On the Amiga and C64 versions of Micro Soccer there's a crafty bug that will allow you to score frequently against the toughest of components.

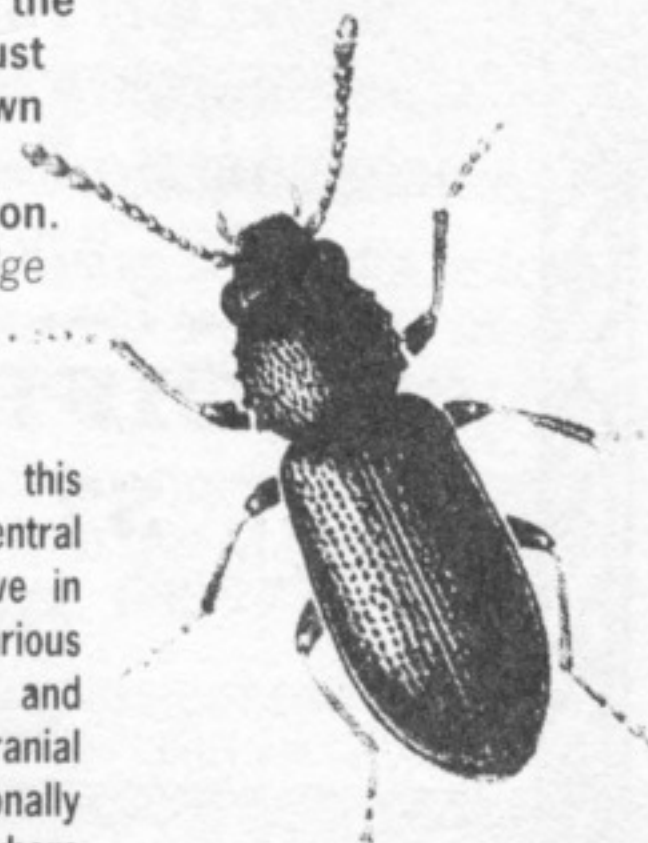
Run with the ball on the far right hand side (up the pitch or down). As you near the end of the pitch get an opposition player to follow behind you. Stop just before the very end of the pitch to prevent a goal kick. Now the player behind you will tackle - forcing the ball out for a corner every time. Now take the corner

in the usual way and another of your players will always be waiting to hammer the ball into the net. Just hold the button down and move in the appropriate direction.

Graham Ruston, Hodge Hill, Birmingham

### • Lissodema cursor

The two species of this genus found in central Europe and Britain live in dry branches, various deciduous trees and programmers' cranial cavities. They occasionally drop onto RAM chips, where they feed voraciously on any bits of code to do with wood





and have found it a very competent machine considering its age and specification. However, I would be most grateful if you could help me with some of my queries.

1. Is there a user group that I could join which would help me in laying hands on second hand soft/hard ware for my PET?

2. I have become interested in collecting vintage computers like the PET, Atari 400/800, ZX80 etc, wear a nylon anorak, wire rimmed spectacles and attend a train spotters club on a regular basis! Is there a cure on the NHS for my disgusting disease?

James Coldfish, Manningtree, Essex

• 1. Contact ICPUK at 30 Brancaster Road, Newbury Park, Ilford IG2 7EP, which should be able to help with PET bits 'n' pieces.

2. I have a pristine Oric Atmos which is surplus to requirements (even Uncle Techtip gets caught occasionally) that I could let you have for a modest sum.

By the way, I'm still trying to dig up some guff about PET BASIC. Hopefully, I'll be successful in a week or two, so hang in there. If any Techtipers have a PET BASIC manual they don't need, send it in and I'll pass it on - you'll be rewarded.

**HELP!**  
**XLent!**

I have an Atari 600XL and an Atari 800XL which have the revision B BASIC in them. Can thou tell me where I can get the revision C BASIC ROM ICs and is there any way of upgrading these machines?

I have bought an Atari 1010 cassette recorder without a power supply unit, can you tell me what the power requirements of the recorder are? Is the centre pin positive or negative? What are the correct connectors for linking the data recorder to the computers?

Can the Qume LetterPro20's printer be used with the Atari 600/800XL and which would be the most suitable interface to use?

Wee Georgie Woods, Walton, Liverpool

• The BASIC can be upgraded by revision C BASIC on cartridge which simply plugs into the ROM cartridge port. Contact Silica Shop on 01 580 4000, which will be able to help.

So you just have the cassette recorder without the serial connection cable or power supply? (Wasn't a very good buy, was it?) Again, Silica Shop should be able to help you with a suitable power supply and a serial cable.

Using the 810 interface you shouldn't experience any difficulty with connecting and using the Qume printer.

**HELP!**  
**A loss of memory?**

I own an Amiga 500 expanded to one megabyte and recently purchased *War in Middle Earth* by Melbourne House from a local computer shop. Upon getting it home, I found it would not load so I took it around to friend's who owns an Amiga 500. To my surprise, the game loaded and ran on his machine. I understand that some games will not work with the memory expansion fitted. Is this the

case with *War in Middle Earth* and if so, how can I play it without physically removing the memory expansion (I had difficulty in finding it in the first place and I do not wish to risk damaging the Amiga). Bearing in mind that all my other games work do you think my Amiga is faulty?

Andrew Yates, Peterborough

• Once again, it's good news and bad news time. There's nothing wrong with either the game or your machine, the problem lies in the expansion. Although that is working perfectly well too, certain commercial games software won't work with the RAM expansion in situ.

To solve the problem there are utilities in the public domain which allow you to 'switch off' the RAM expansion card but unfortunately, they won't work with commercial software (due to the protection systems in use).

It's down to plugging and unplugging I'm afraid.

**TIP**  
**Got the blues**

I have noticed that it is possible for Amiga Elite players who enjoy *The Blue Danube* to listen to it whilst wasting a few Thargoids.

Simply press H to hyperspace then, when the counter is down to 5 or lower engage the docking computer. *The Blue Danube* will now play until you reach the next space station.

David Ovington, Worcester

**HELP!**  
**No no no**

Three questions:

1. Is the PCW compatible with an IBM-PC such as the Amstrad 1512?

2. Where has the release schedule gone?

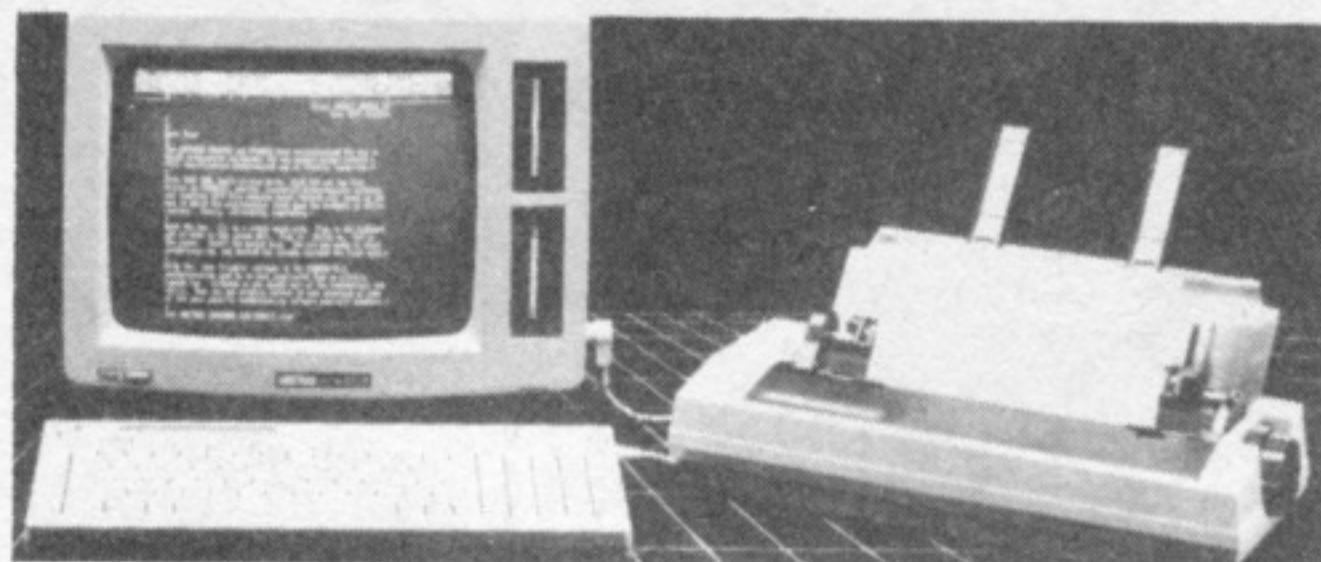
3. Can you start up a Ceefax guide for us proud BBC/IBM teletext (ATS) ROM owners, once a month?

Simon Denton, Taunton, Somerset

• 1. No. (The Amstrad 1512 is not an IBM-PC, it is an IBM-PC compatible and IBM wouldn't thank you for thinking otherwise!) The only way to transfer data is by connecting the PCW to a PC with a cable. This limits you to ASCII and data files.

2. It was dropped because it was found to be unprofitable for Software Information Services, which collected the information.

3. No.



• Amstrad's PCW: Is it compatible with PCs?

**NEEDFORWARD LTD**

**Tel: 0242 227746/227745**

Shareware...Maintenance/Repair...Programming...Technical Writing...Hardware...  
...Software...Components...Office Supplies/Furniture...

High quality blank disks - 5 1/4" 10 - £5. 20 - £9. 50 - £20. 100 - £37. 500 - £165 3 1/2" 10 - £9. 20 - £17 50 - £40. 100 - £78. 500 - £380.

Subscribe to ForeGroup, a user group which entitles you large discounts on all disks and provides a bi-monthly magazine which gives news and reviews on Shareware, Public Domain, Hardware, Technical Problems, plus a competition every issue. Annual membership £13.50

All disks have been tested, and checked virus free. 5 1/4" Disks £2.00 3 1/2" Disks £3.00

<p><b>BUSINESS</b> Freeway Payroll Freeway Cashbook Lightyear - a business optimiser system PC Mail Bibliography of Business Ethics and Morals Front Office Mass Appeal Form Generator plus label print programme</p>	<p><b>LANGUAGES</b> Small C Modular 2 Compiler V2. OA Modular 2 tutor Pascal tutor Lisp-Xlisp PD Prolog Mystic Pascal A86/D86 8080 macro assembler plus debugger</p>	<p><b>COMMERCIAL PACKAGE SUPPORT UTILITIES</b> Wordstar - aids to improve usage DBase III - screen generator, utilities, fact copy Printmaster - includes &gt; 100 pictures Printmaster Icons - 2 disks of 2000 PM icons 1-2-3 - 23 financial works files with macros</p>
<p><b>EDUCATIONAL</b> Fastype - typing tutor French tutor German tutor Flash Cards Secondary School - range of subjects</p>	<p><b>GAMES</b> Dungeon/Dragons PC Chess Scrabble Arcade Pinball Startrek</p>	<p><b>INTERESTS</b> Yale star catalogue - 3 disk technical database inc. bright stars Family History - 2 disk on genealogy NEC database - 2 disk elect. ref. for design eng. Astrology/Horoscope Planets Electronics - filter design, multivibrators etc.</p>

**PLUS HUNDREDS MORE**

Our own package, ForePack is now on sale, it includes:

- ForeWord - Menu driven Wordprocessor
- Calc - Spreadsheet
- Talk - Comms
- User - Information Organiser/Calendar
- Base - Database
- Disk - Disk Management

ForePack - features individual and system macros, virus recognition, mouse/kbrd driven. pull down menus, complete on screen help

You don't need any other package. Sold individually, in sets, or as Pack.

£30.00 (ea.), £49.00 (2),  
£89.00 (4), £129.00 (6)

BORLAND Turbo Lightning, Spell checker (80,000 wd) £60.00.  
Sold with any of ForePack at £43

**HAVE YOU GOT YOUR SUMS RIGHT!  
Break the Price Barrier**

- PB1 Commodore Amiga 500 - disk drive & modulator - RRP £399.99 Our Price £360.00
- PB2 Four Games - Photon Paint and Joystick - RRP £179.80 Our Price £44.50
- PB3 Ten Games, Photon Paint and Joystick - RRP £304.40 Our Price £82.50
- PB4 = PB1+PB2 Total RRP £579.79 Our Price £385.50 You Save £229.04
- PB5 = PB1+PB3 Total RRP £704.39 Our Price £399.00. You Save £305.39



All Cheques/P.O's made payable to:  
**NEEDFORWARD LTD (Dept CE)**  
**52 Pennsylvania Avenue,**  
**HestersWay, Cheltenham. GL51 7JP**  
Please add £1.50 p&p to all orders





# PUBLIC APOLOGY

M.D. Office Supplies would like to take this opportunity to all its competitors. We shall with immediate effect supply direct to the public,



**Computer discs, Storage boxes, etc. AT BELOW WHOLESALE PRICES**



## JUST LOOK AT THESE AMAZING PRICES

### 3<sup>1</sup>/<sub>2</sub>

### 3.5" DISCS & BOXES

### 3<sup>1</sup>/<sub>2</sub>

25 3.5" DS-DD 135 TPI with 40 Capacity Lockable Storage Box .....	£22.95
35 3.5" DS-DD 135 TPI with 80 Capacity Lockable Storage Box .....	£31.95
45 3.5" DS-DD 135 TPI with 80 Capacity Lockable Storage Box .....	£37.95
55 3.5" DS-DD 135 TPI with 80 Capacity Lockable Storage Box .....	£44.95
65 3.5" DS-DD 135 TPI with 80 Capacity Lockable Storage Box .....	£49.95
75 3.5" DS-DD 135 TPI with 80 Capacity Lockable Storage Box .....	£54.95

OUR 3.50" DISCS ARE **VERY CAREFULLY SELECTED** TO GIVE YOU 100% ERROR FREE PERFORMANCE. EACH DISC IS OFFERED WITH OUR 100% MONEY BACK GUARANTEE AND SUPPLIED WITH LABELS

### 5<sup>1</sup>/<sub>4</sub>

### 5.25" DISCS & BOXES

### 5<sup>1</sup>/<sub>4</sub>

25 5.25" DS-DD 96 TPI with 50 Capacity Lockable Storage Box .....	£12.49
50 5.25" DS-DD 96 TPI with 100 Capacity Lockable Storage Box .....	£18.49
75 5.25" DS-DD 96 TPI with 100 Capacity Lockable Storage Box .....	£23.49
100 5.25" DS-DD 96 TPI with 100 Capacity Lockable Storage Box .....	£29.49

ALL DISCS ARE CERTIFIED 100% ERROR FREE, AND ARE SUPPLIED WITH FULL USER SETS

### HIGH DENSITY 5.25" DISCS

25 5.25 DS HD 1.6Mb plus 50 Box.....	£23.99
50 5.25 DS HD 1.6Mb plus 100 Box.....	£44.99
100 5.25 DS HD 1.6Mb plus 100 Box.....	£74.99

(High Density Discs are for IBM PC AT etc)

### UNINTERRUPTIBLE POWER SUPPLIES

350 VA Slimline * 10/22 .....	£287.00
400 VA * 5/15 .....	£298.00
550 VA Slimline * 7/15 .....	£350.00
800 VA * 5/15 .....	£556.00
1000 VA * 5/12 .....	£625.00

Transfer Time <4 milliseconds • Overload Protection • Line Surge Protection • Noise Attenuation • British Standard Output Sockets • 6 Feet Power Cord with Plug  
\*Load times full/half load  
*Protects your Computer system from Power Problems, no more Loss of Data due to a Power Failure*

### BULK BUYERS

For those of you that require larger quantities of discs we offer the following  
**100% Error Free TOP QUALITY DISCS**

100 DS DD 135tpi .....	£69.99	150 DS DD 135tpi.....	£100.00
200 DS DD 135tpi .....	£129.99	300 DS DD 135tpi.....	£189.99
400 DS DD 135tpi .....	£249.99	500 DS DD 135tpi.....	£304.99

### MANUAL DATA SWITCHES

(Metal case, Long life Rotary Switches)

Parallel Centronics 2-way.....	£21.00
Parallel Centronics 3-way.....	£25.00
Parallel Centronics 4-way.....	£30.00
Parallel Centronics X-over.....	£30.00

### PRINTER BUFFERS

(Functions: Copy, Bypass, Selftest, Reset, Port Selectable)

Parallel only available	
64K 1 input to 1 output .....	£70.00
64K 2 input to 1 output .....	£90.00
256K 1 input to 1 output .....	£140.00
256K 2 input to 1 output .....	£160.00
256K 4 input to 2 output .....	£256.00

## M.D. OFFICE SUPPLIES

**18 CRESCENT WAY, FARNBOROUGH, KENT BR6 9LS**

**TELESALES HOTLINES: 0689-61400**



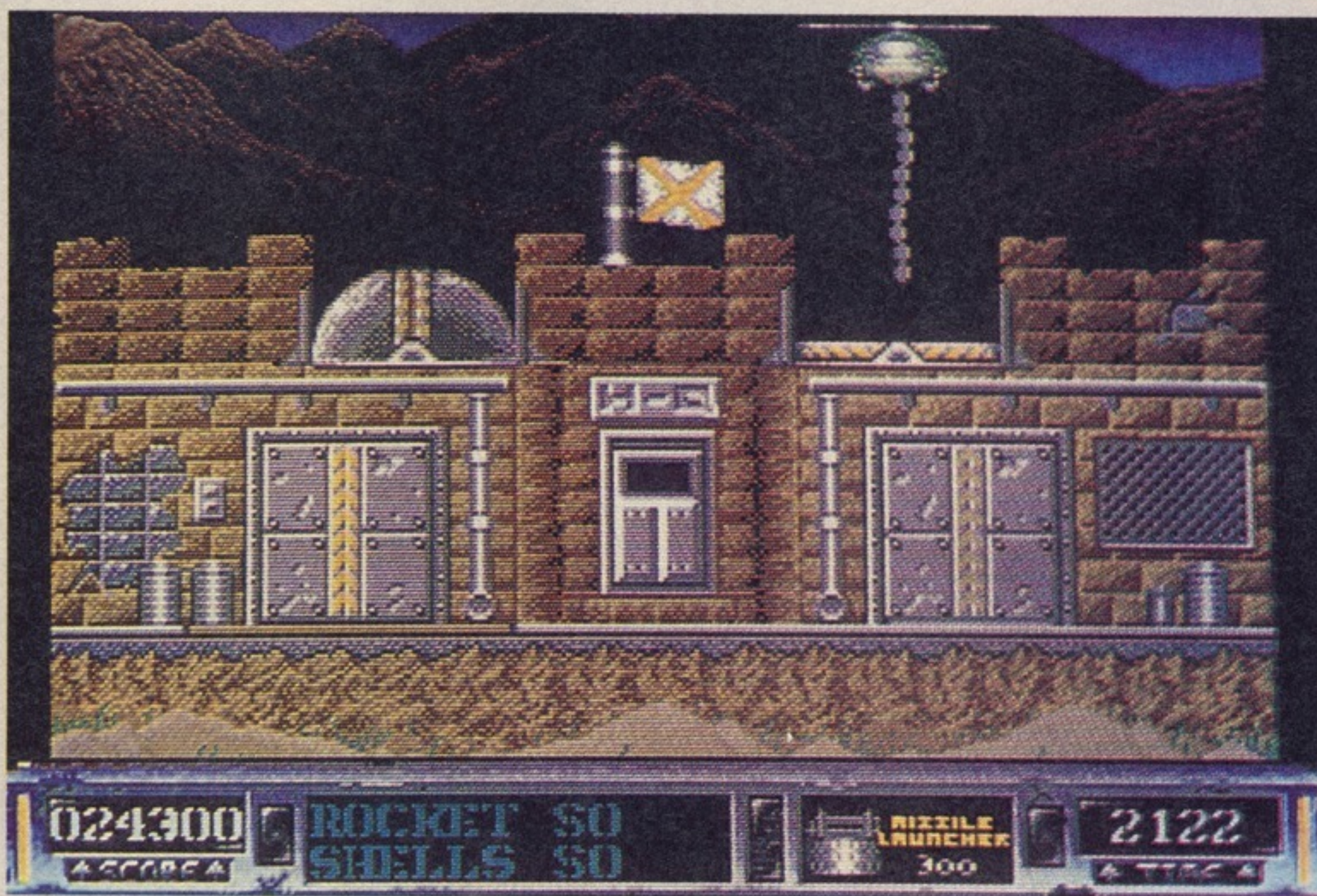
All prices include VAT and Delivery UK only. E/OE





# INTO THE VALLEY OF DEATH...

Rik Haynes rides over the latest releases without any need of the six hundred!



## BATTLE VALLEY HEWSON

As a US mercenary, you have to take out some terrorist desert bases in this hectic Hewson shoot-'em-up, already released in budget form on the C64.

The aim is to get back the last two medium range

nuclear missiles made before the worldwide arms treaty came into force, and which have been stolen by terrorists. *Battle Valley* is due for Amiga release in August.

## PALADIN OMNITREND/ARTRONIC

A mixture of fantasy, strategy and role-playing, *Paladin* throws you into the world of playing Dungeons and Dragons – Knight and day – as you take a party of followers through 10 quests meeting trolls, zombies and sorcerers along the way. Also featured is a Quest Builder for modifying and creating new scenarios. Out soon on ST, Amiga and PC



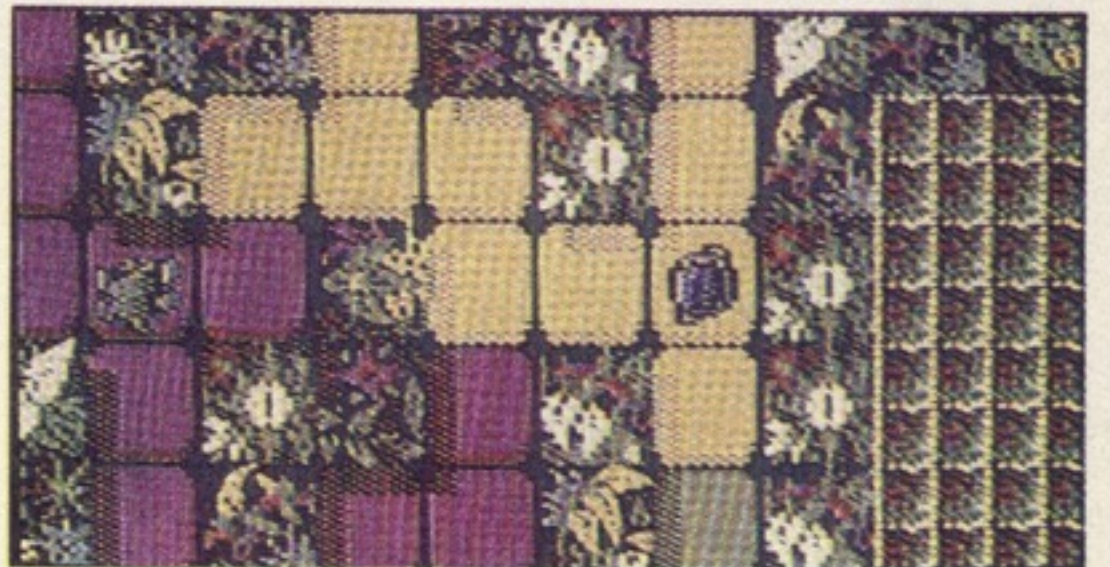
## BARBARIAN II PALACE SOFTWARE

Yes, it's finally arrived! *Barbarian II* on the Amiga, complete with Maria Whittaker on cover, and in-game monster decapitation. Music supremo Richard Joseph has again produced the sampled sounds we've all come to love, as you swipe off the head of an opponent with a satisfying swish of sound. Also out on PC next month.



## MAZEMANIA HEWSON

A game for all budding maze maniacs, *MazeMania's* blend of puzzle and furious action, coupled with 12-16 levels of play, should help keep you amused. Requiring skill and a lot of co-ordination, *MazeMania* is scheduled for release on Spectrum, C64 and CPC in August, with ST and Amiga versions following shortly afterwards.



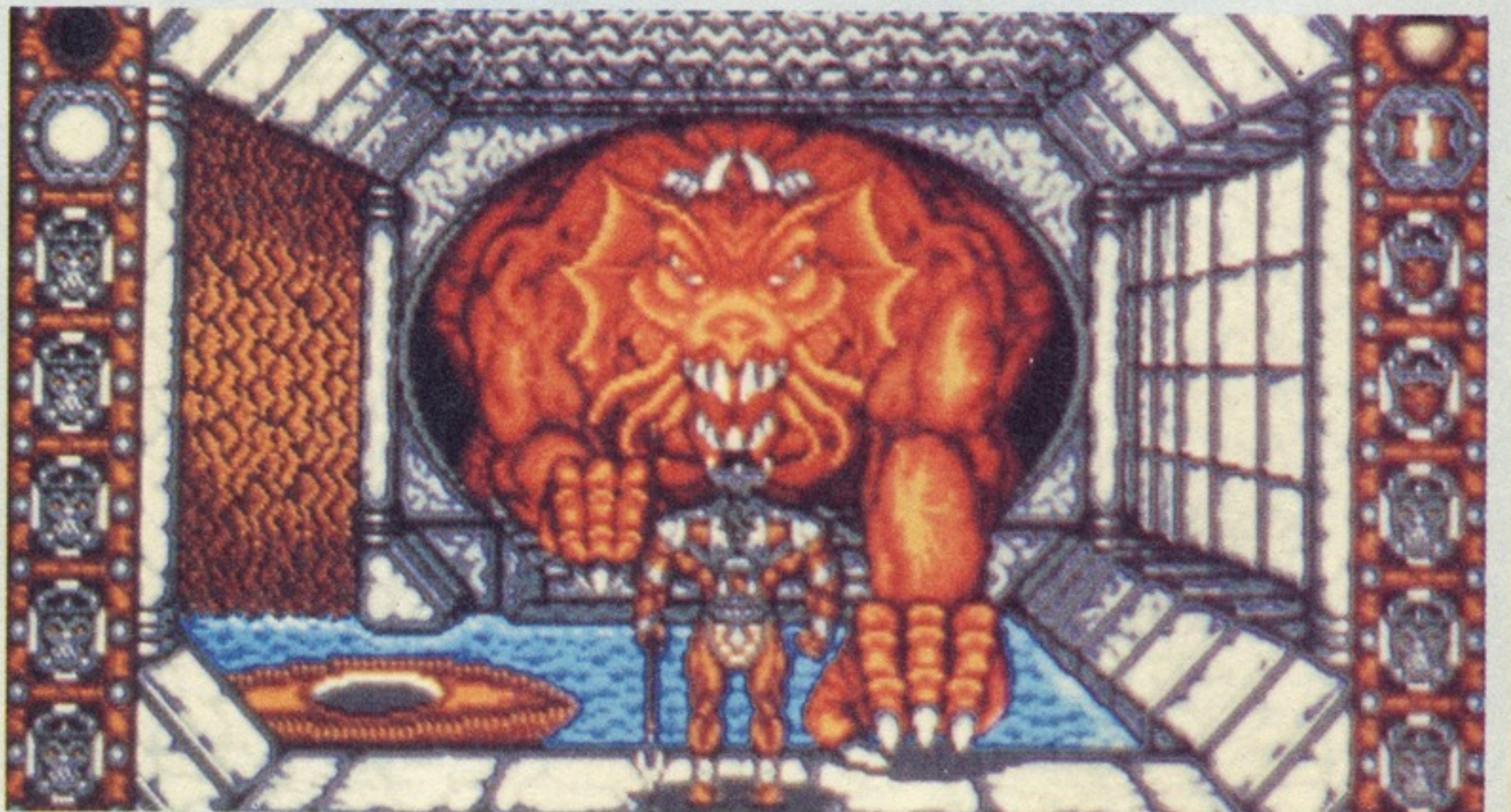
## THE AMERICAN CIVIL WAR VOL II STRATEGIC STUDIES GROUP/EA

The latest wargame from US wargaming specialist SSG, *Decisive Battles of The American Civil War Vol. II* may not exactly roll off the tongue but it's packed with features and options including *Warplan* (wargame construction kit) and *WarPaint* (icon editor), and uses the award-winning *Decisive Battles Game System*. Out shortly on PC.

## CASTLE WARRIOR DELPHINE SOFTWARE/PALACE SOFTWARE

*Castle Warrior* is the follow-up to the critically acclaimed *Bio Challenge* (Reviewed in *Express* 28) from the French software developer Delphine Software.

This arcade adventure places you in the guise of Edelred The Brave on an antidote-finding mission to save your poisoned father, Edelred The Good. Yuk! Out next month on ST and Amiga.





● The heat is on, in more ways than one. In this sweltering heat, tempers aren't sweet. But the show must go on, just like this song.

*Dark Side* from Microstatus – gameplaying hiatus.

*Personal Nightmare* gave us no great scare. Logotron's *Star Ray* shows others the way.

(And Rik Haynes the bard can pick up his card(s) – Ed)

## STARRAY

LOGOTRON

PC • £29.99dk  
Also on ST, Amiga



● VGA: Very Good Attempt – except for the scrolling

After last autumn's CGA PC release comes the EGA/VGA/Hercules update – and a lot better it looks too. So how well does it compare to the other 16-bit outings?

### ● GAMEPLAY

If you ever played the classic *Defender* in the arcades then you'll know the score with *StarRay* inside out. So much so, that in the States it's going to be released as *Revenge of Defender*. To be fair, there's more to the gameplay than in the original but the aim remains the same: namely to protect installations on the ground while blasting everything that moves – except bonus balls, which will supply you with everything from improved acceleration to invulnerability. There are seven missions to get your teeth into, so by the end of the game your fire finger will be well worn.

### ● GRAPHICS AND SOUND

Compared to the dreadful CGA version, both VGA and EGA modes deliver good graphics, with VGA winning out of course. Nevertheless, scrolling and sprites aren't really convincing. Parallax scrolling is fast enough but jerky, while the sprites aren't solid enough. Even in VGA they appear as just a bunch of pixels. Sound is as useless as usual on the PC – confined to beeps, beeps and more beeps. When will decent sound cards be bundled as standard?

### ● OTHER VERSIONS

The Amiga version performs the best, with smooth, fast scrolling and impressive stereo spot-effects and soundtrack. The ST outing is well worth a look too.

# DARK SIDE

INCENTIVE/MICROSTATUS

Amiga £24.95dk  
Also on ST Spectrum, C64, CPC and PC  
versions published by Incentive

*Dark Side* is the first game on the new Microstatus label from Microprose, and marks the second conversion of this popular arcade adventure to 16-bit format.

### ● GAMEPLAY

Placed in the role of a troubleshooter, you'll have to explore the Dark Side of the moon Tricuspid, in order to find and disable the energy matrix which is feeding Zephyr, a massively destructive weapon designed by the Ketars to destroy your peace-loving people on the planet Evaths. Confused? You certainly should be...

### ● GRAPHICS AND SOUND

We've obviously been spoilt by *StarGlider II* and its

excellent solid 3D graphics, because the Freescaping landscape system on the Amiga seemed far less impressive then when we first witnessed it on the 8-bit micro's. However, they're more colourful, faster and polished than before.

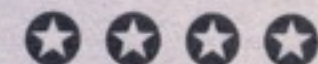
Audio isn't bad either, with either soundtrack or special FX to choose from.

### ● OTHER VERSIONS

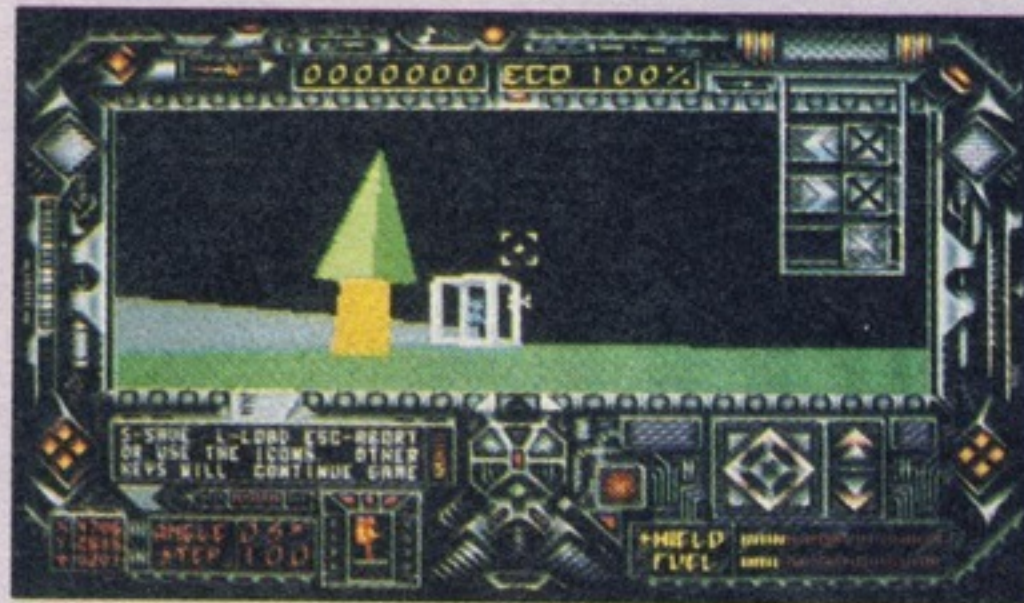
*Dark Side* on the Spectrum, C64, CPC again proved the classic combination of puzzle-type gameplay and the innovative Freescape technique, a far more remarkable achievement on the 8-bits considering their hardware limitations.

### ● EXPRESS VERDICT

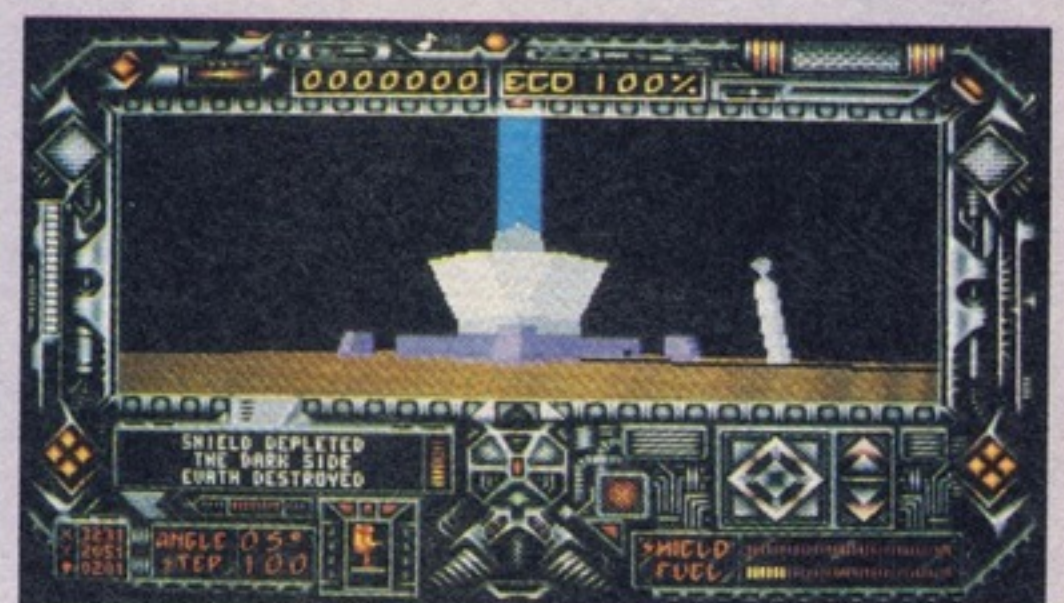
Although not quite as outstanding as its 8-bit counterparts – perhaps we were expecting too much – Amiga *Dark Side* still manages to produce a playable game thanks to its assorted range of puzzles backed up by the praiseworthy Freescaping visuals.



Rik Haynes



● Take a walk on the Dark Side...



### ● EXPRESS VERDICT

There aren't too many shoot-'em-ups for PCs, so with the appearance of VGA *StarRay* you're probably talking about the best blaster available for that machine – even though it's just a good reworking of a ten year old coin-op game.



Andy Storer

## PERSONAL NIGHTMARE

HORRORSOFT/TYNESOFT

Amiga • £29.95dk  
Also on ST  
Out soon on PC



● Frighteningly good intro sequence

Making a debut for a new software label based around Horror games, "starring" the Elvira vamp from a popular American TV Horror show, is

*Personal Nightmare* horrifically appalling or frighteningly addictive?

### ● GAMEPLAY

*Personal Nightmare* is a three-disk menu-driven graphic adventure incorporating many of the standard "adventure" options, with more than a few surprises for the bold adventurer.

### ● GRAPHICS AND SOUND

A great intro sequence takes you into start of play, all the features of the genre are here: eerie sound spot effects, limited character animation and plenty of locations to explore.

### ● OTHER VERSIONS

We haven't seen the five-disk ST version yet, and PC *Personal Nightmare* will be released sometime next month.

### ● EXPRESS VERDICT

*Personal Nightmare* is a promising start to a new-ish software genre, which thankfully owes nothing to the disgusting *Jack The Ripper* style of sensationalism. It's a touch too expensive though.



Rik Haynes

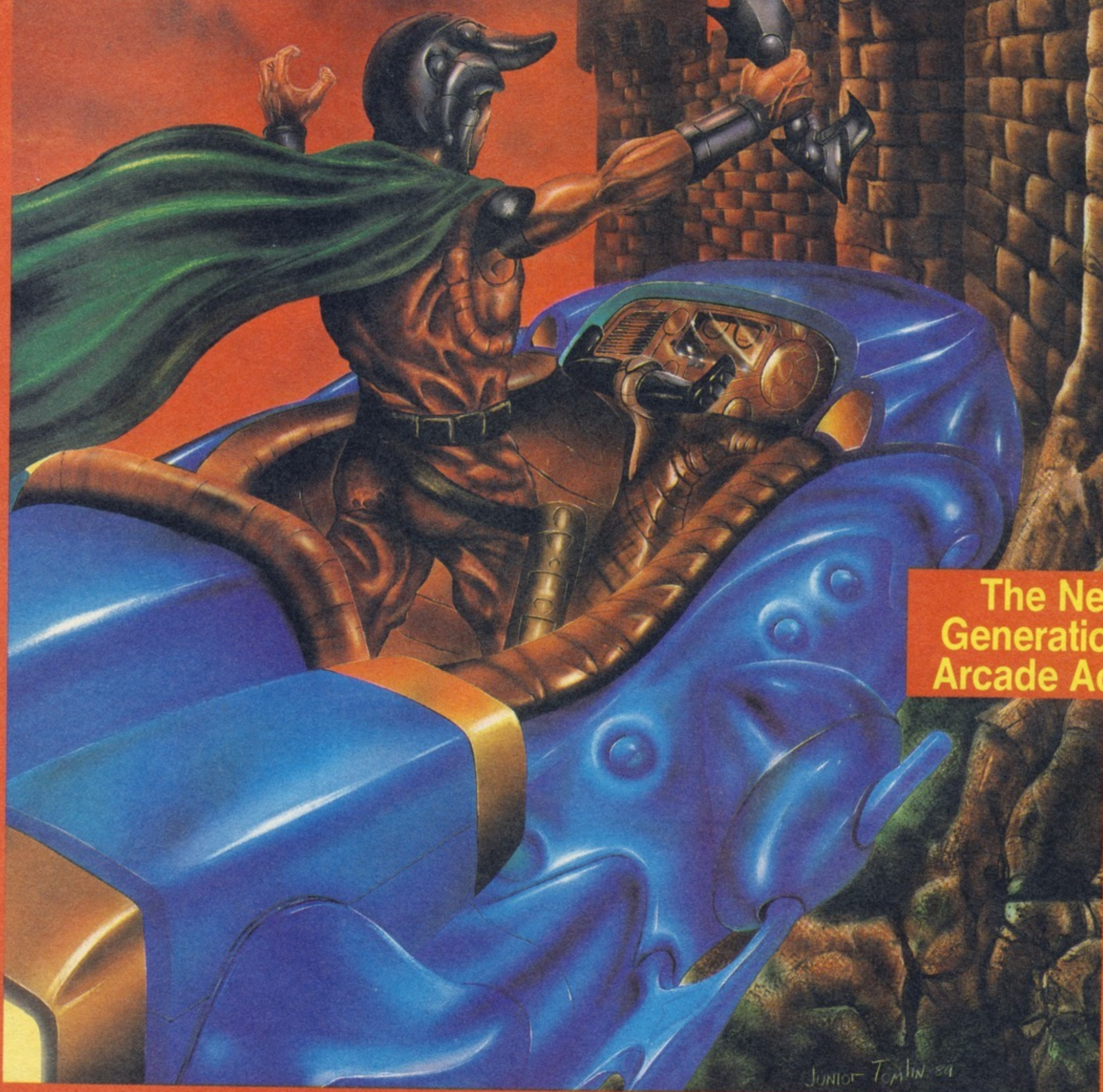


Mr Jones says 'Your father has booked you a room here. I've given you the key in case you need to get in after 11:30 when I lock up.  
Mr Jones says 'Your room is through the small door on your left and upstairs. It's the last on the left. Have a good stay.'

● Keeping up with Joneses as you start play



# CHARIOTS of WRATH



The Next  
Generation in  
Arcade Action

AMIGA - £24.99  
ATARI ST - £24.99



TRADE ENQUIRIES CALL:  
ACTIVE SALES & MARKETING  
on (01) 384 2701

Mail Order: please send cheque to:

6, Dykewood Close, Bexley, Kent DA5 2JN



# Worming his way into your affections

Rik Haynes gets up-to-date with new versions of games previously reviewed in Express



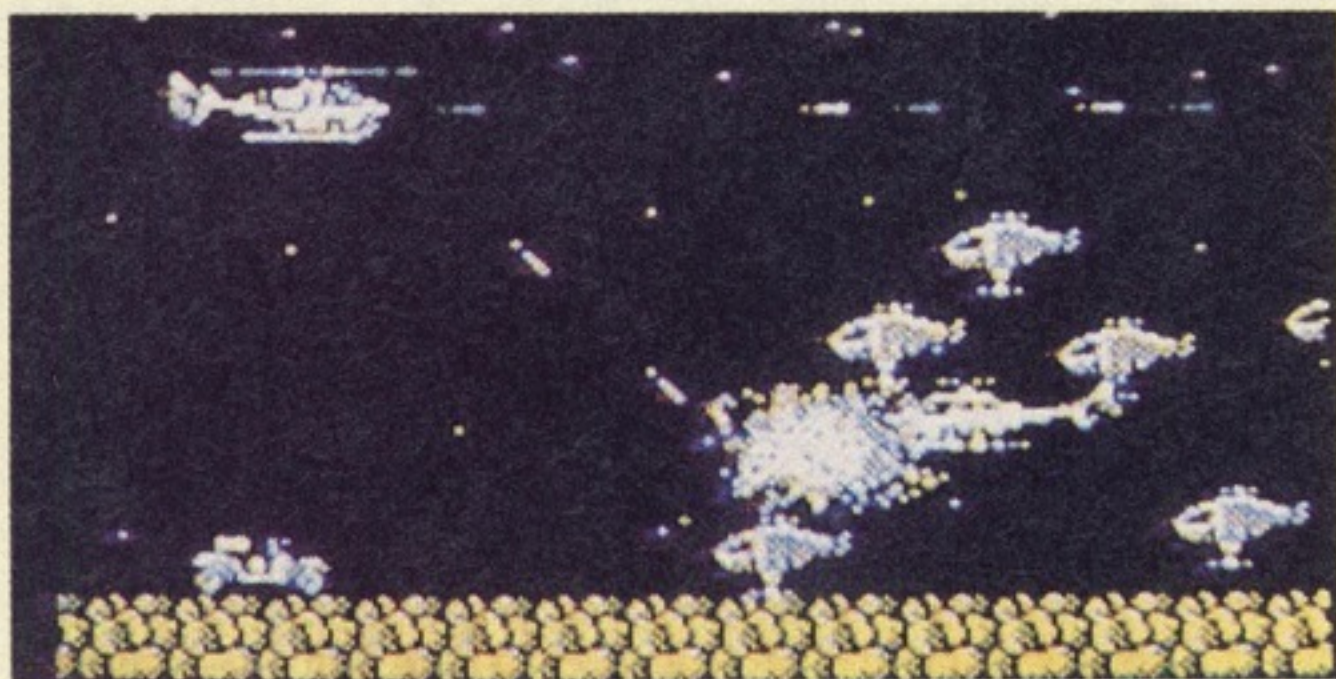
• No pause in the action

## FORGOTTEN WORLDS CAPCOM/US GOLD

CPC ● £9.99cs £14.99dk ● Amiga version reviewed in Express 30 ● Also on Spectrum, C64, ST

Like *Silkworm*, a one or simultaneous two-player horizontally-scrolling shoot'em-up, *Forgotten Worlds* features colourful graphics but falls down a little in the playability and speed departments.

★ ★ ★



• Silk-smooth scrolling on the Spectrum?

## SILKWORM VIRGIN GAMES Spectrum/C64 ● £9.99cs £14.99dk ● Amiga version reviewed in Express 32 ● Also on CPC, ST

This standard slice of horizontally-scrolling shoot'em-up action has been successfully converted over to the Spectrum and C64. Perhaps a tad too easy on the Spectrum, both versions of *Silkworm* are undoubtedly great fun to play.

★ ★ ★



• C64: Jeep thrills - and spills

## MICROPROSE SOCCER MICROPROSE Amiga ● £24.95 ● C64 version reviewed in Express 4, Spectrum version reviewed in Express 27 ● Also on CPC, ST

*Microprose Soccer* maybe on top of the C64 and Spectrum footie-sim 1st Division, but we're afraid the Amiga version's relegated to Sunday League when compared to the superlative *Kick-Off* from Anco (Reviewed in last week's Express).

★ ★ ★



• Where's this Ruud Gullit geyser then?

## BATTLECHESS ELECTRONIC ARTS

ST ● £24.99 ● PC version reviewed in Express 10 ● Also on Amiga

A remarkably accurate conversion from the Amiga, ST *Battlechess* contains excellent visuals and even matches the Amiga's sampled sound effects. The game has a great sense of humour, but may not have strong enough play for the hardened chess player. Well worth a look, though.

★ ★ ★ ★



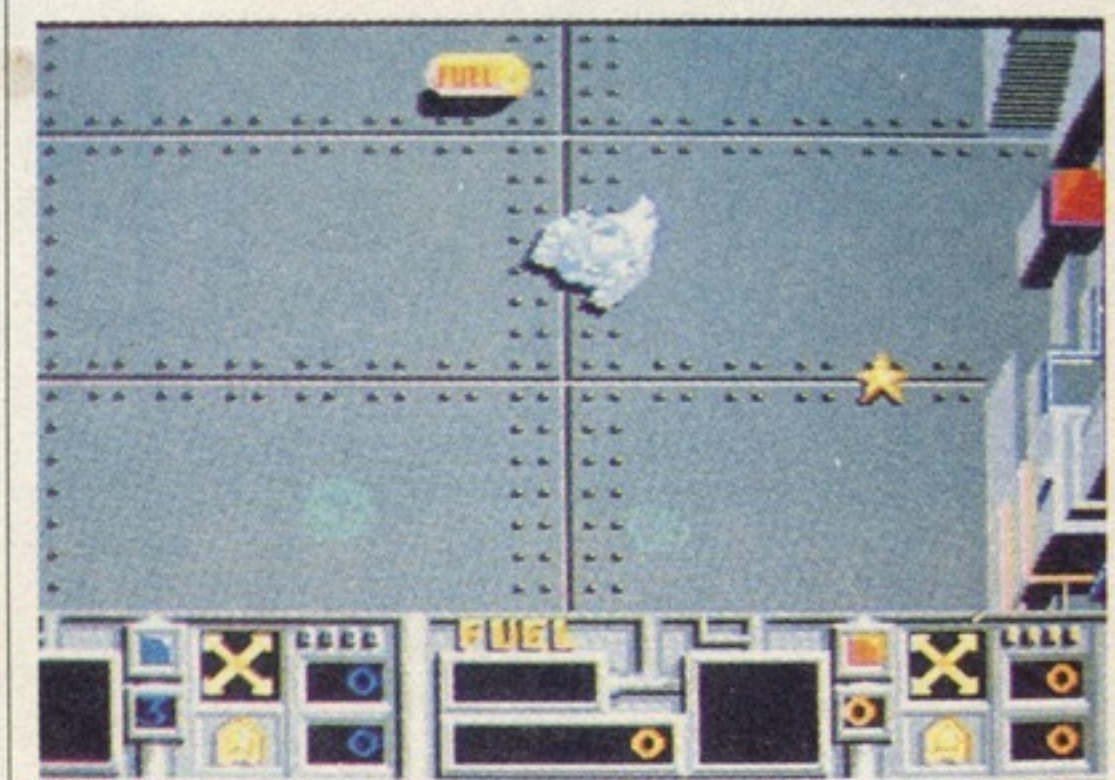
• And Karpov unexpected encountering his opponent's knight to queen's 4 etc etc

## VINDICATORS TENGEN/DOMARK

Amiga ● £19.95 ● ST version reviewed in Express 23 ● Also on Spectrum, C64, CPC

More or less a straight port over from the ST, *Vindicators* on the Amiga is slightly disappointing in that the Amiga's superior sound quality hasn't been put into effect. That said, it's an accurate conversion of the coin-op.

★ ★ ★



• All tanked up on one star



The  
incredible  
New  
Computer  
Express  
voucher  
scheme can  
save you over

**£10**

when you buy  
from adverts  
in this  
magazine!

Full details on next page

**EXPRESS  
VOUCHER**

**£1**

**EXPRESS  
VOUCHER**

**£2**

**EXPRESS  
VOUCHER**

**£3**

**EXPRESS  
VOUCHER**

**£4**



### £1 voucher. Valid for orders above £20

This voucher may be used as £1.00 part payment on any order totalling over £20 from a participating advertiser in *New Computer Express*. You simply fill in the details below and send it off with your order.

Your name \_\_\_\_\_

Address \_\_\_\_\_

Telephone (if possible) \_\_\_\_\_

Item (s) purchased \_\_\_\_\_

Only one voucher per order is allowed. This voucher and its accompanying order must be received by the advertiser before 9am **July 9, 1989**.

### £2 voucher. Valid for orders above £40

This voucher may be used as £2.00 part payment on any order totalling over £40 from a participating advertiser in *New Computer Express*. You simply fill in the details below and send it off with your order.

Your name \_\_\_\_\_

Address \_\_\_\_\_

Telephone (if possible) \_\_\_\_\_

Item (s) purchased \_\_\_\_\_

Only one voucher per order is allowed. This voucher and its accompanying order must be received by the advertiser before 9am **July 9, 1989**.

### £3 voucher. Valid for orders above £60

This voucher may be used as £3.00 part payment on any order totalling over £60 from a participating advertiser in *New Computer Express*. You simply fill in the details below and send it off with your order.

Your name \_\_\_\_\_

Address \_\_\_\_\_

Telephone (if possible) \_\_\_\_\_

Item (s) purchased \_\_\_\_\_

Only one voucher per order is allowed. This voucher and its accompanying order must be received by the advertiser before 9am **July 9, 1989**.

### £4 voucher. Valid for orders above £80

This voucher may be used as £4.00 part payment on any order totalling over £80 from a participating advertiser in *New Computer Express*. You simply fill in the details below and send it off with your order.

Your name \_\_\_\_\_

Address \_\_\_\_\_

Telephone (if possible) \_\_\_\_\_

Item (s) purchased \_\_\_\_\_

Only one voucher per order is allowed. This voucher and its accompanying order must be received by the advertiser before 9am **July 9, 1989**.

# EXPRESS VOUCHERS

## How the scheme works

- The Express voucher is a special scheme to encourage you to buy *New Computer Express* regularly.
- It offers you savings of up to £10 when you buy goods through the magazine.
- The vouchers are not limited to specific items – you can save on any purchase from one of the participating advertisers.
- Most mail order advertisers in this magazine are taking part in the scheme – just look for this sign. →
- Remember. The use of just one voucher could more than recoup the price of the magazine.



#### THE FIVE SIMPLE RULES

1. Express vouchers can be used to obtain discounts on purchases of goods advertised in this issue of *New Computer Express*, **provided** that they are bought directly from an advertiser taking part in the scheme. The vouchers are valid **only** for those advertisements which say "We Accept Express Vouchers".
2. Each voucher entitles you to a discount at the voucher's face value, **provided** that your overall order level is **higher** than the figure indicated on the back of the voucher.
3. To use a voucher, simply enclose it with your discounted payment when you order. You may use **only one** voucher in any one order.
4. The order including the voucher must be received by the advertiser before the closing date printed on the voucher.
5. **You must** fill in the details requested on the voucher.



# FOUR FREE ISSUES!

■ At only 58p *New Computer Express* is an incredible bargain, but take out a year's subscription and we'll send you an **additional four** issues of the magazine **absolutely free!**

■ So for just **£29.95**, you'll receive **56** copies of Britain's **most exciting** weekly computer magazine! (Or you can take out a six-month subscription (26 issues) for just **£14.95**.)

■ There's no better way of keeping **100%** up to date on the fast-changing computer scene!

(Please allow three weeks for your subscription order to be processed.)

**CREDIT CARD ORDERS 0458 74011**

You can order your subscription by phone. Just dial 0458 74011 and ask for New Computer Express Subscriptions.

**ATARI 520ST** floppy disk drive half megabyte, good condition, boxed with manual, leads. £50.00. 0272 835276.

**ATARI STFM**, 1Mb memory, half megabyte drive, 41 games, 70 mags, 2 joys, Devpac 2, STOS, other programs, MC Books. Phone Hitchin 0462 712583. £300.

**ATARI 520STM**, 1Mb drive, SM125 mono monitor, books, software, joystick, modem. All as new. Tel West Drayton (0895) 445289. £250.

**AMSTRAD PC1640HD** 20Mb, colour monitor, printer, boxed, two months old. Cost £1350.00, accept £999.00. Phone 04446 42162. Can deliver.

**ATARI 130XE**, 1050 disk drive, 1010 cassette recorder, joyball, etc. All perfect condition. Bargain £185 ono. Tel Glos (0452) 300129.

**AMSTRAD COLOUR MONITOR** + Atari lead, hardly used £85. Texas 810 printer, suit professional user/enthusiast. Offers & details, Clive, 01 299 0867/699 5775

**EXPRESS COLUMNIST** has full BBC B system for sale. Micro, monitor, drives, daisywheel printer, software £750 ono. Ring 040923 444 (Devon)

**SINCLAIR SPECTRUM 128K**, disciple interface, dual 5.25" disks, Kempston mouse, joystick interface, printer interface. For more details phone (0462) 711722

**AMIGA ORIGINALS**, Interceptor, Capone, Mortvill Manor, Captain Blood, Three Stooges, World Tour Golf, Defender of the Crown. £55. Tel 0272 613173

**B2000 AMIGA**, hard disk, 3 meg, Progenlock second drive plus software. Bargain at £1600. Call Joe 0274 730020.

**MULTIFACE TWO** for Amstrad CPCs. As new. Hardly used. £26. Incl P & P. Tel 0742 471545 (John).

**AMIGA ONLINE!** Comms s/ware £25. Casio TV400 pocket television. 2" colour LCD screen plus transformer £85. Phone after 6pm. 0722 790776. Salisbury, Wiltshire.

**ATARI 520STFM** 1 meg drive + £600 software, PC Ditto, 27 x games, PD, mouse, joystick. Less than year old. £300. Cooke 0242 67 3170.

**Z88 LAPTOP 256K** plus 128K EPROM plus spellchecker, printer lead and manuals. Only three months old. Bargain £175. 01-366 8454

**BULLETIN BOARD EXPERTS** required to give their knowledge on new system being run by a micro club. Telephone (0245) 361471

**ELECTRON** + joystick interface + recorder + Elite and loads more top games. Everything in excellent con. £100. Tel 0992 23450

**ATARI 800XL**, 1050 diskdrive plus software, all boxed as new. Tel 0708 861165 evenings only (Essex) £85.00

**COMMODORE 64C** with Citizen 120-D printer and £350 worth software with instructions. Please phone (0734) 862562. Price + £300 - ask Colin

**C-ITOH CX-4800 PLOTTER**. A4 4-color: serial/parallel. Ideal for CAD. In perfect condition. Bargain at £275. Phone 027581 5496 evenings

**YES**, I'd like to keep in touch with the latest computer news, releases and advertising bargains by subscribing to *New Computer Express*. I would like to subscribe for:

56 issues costing just £29.95     26 issues costing just £14.95  
(tick one box only)

Name .....

Address .....

Age:  <18     18-25     26-35     36-45     >45

Computer .....

Total payable .....

Payment by:  Access     Visa     Cheque     PO

Access/Visa no .....

Expiry date: July 8th 1989

Please make cheques or POs payable to **Future Publishing Ltd** and enclose them with this form in an envelope addressed to Express Subscriptions, Future Publishing Ltd, Somerton, Somerset TA11 7PY. No stamp required if posted in the UK.

**ELECTRON LOADSAGAMES** T/Rec mags, books etc. Worth £250, will sell for £120 the lot. Interested? Ring Paul on (0959) 75900

**FOR SALE**. Printer ribbon re-inking machine - surplus to requirements. Phone Nick on 08907 50965

**ST GAMES FOR SALE**. Robocop £10, Speedball £10, and more. 2, Histon Court, Cragston Park, Newcastle upon Tyne, NE5 3TR

**AMSTRAD CPC6128**, colour monitor, cassette lead, joystick, built-in disk drive. Several original games. Excellent condition £200 ono. Tel 01-941 0611

**AMSTRAD CPC SOFTWARE**, all original, worth £300. Includes Operation Wolf, Airborne Ranger, Driller and loads more. Just £65. Tel 024532 9600

**ELECTRON**, Interface and Quickshot II. Joystick. 50 original games. Programming books. £55 ono! Offers? I'm prepared to haggle! (0695) 622199

**AMSTRAD PC1640DD** colour display, 9 months old, under manufacturer's warranty. £600 ono. Onwer upgrading. Phone Bristol (0272) 518771

**A500, 1084 MONITOR**, A501 expansion, Cumana drive, LC10 printer. £500+ worth of software. £1,000 for quick sale. 0689 50985 after 6.

**FOR SALE PRISM 2000 MODEM** with MSX RS232C interface board comms software with Viewdata plus interface lead £120 ono. 051 236 7981

**COMMODORE 64**, cassette deck, MPS-801 printer, joystick, software, handbooks etc. Excellent condition, £150 ono. Gravesend 0474 362217.

**SEGA MASTER SYSTEM** with 12 games including Shinobi, Zillionz and Global Defence. Excellent condition £170. Tel 0284 754060.

**AMIGA TIPS AND CHEATS**, disk issue one, covers 30+ games: £2.00 and SAE to J. S. Smith 45 Maplecroft Crescent, Sheffield S9 1DN.

**AMSTRAD PC1512** single drive colour monitor, modem, printer Citizen 120D, dot matrix and several software items £600. Bradford 0274 639312.

**BARGAIN 640K QL**, a universe of software, perfect working order. Offers. Ring Express on 0225 446034.

**ATARI MEGA 2 ST**, colour monitor, extra Atari drive, 30+ quality games, w/p, extras, Guarantee, £850 ono. May split. 0202 691306.

**PCW UTILITY**, has clock, calendar, jotter, diary, phonebook, graphs, alarm, calculator, all in 3D graphics, £15. Phone 061 226 9099

**MUSIC 5000 SYSTEM** and hundreds of tunes, £75. Hi-res BBC colour monitor £250 ono. Call (0442) 52320 with offers.

**SPECTRUM +2** also with compatible colour monitor, loads of top original games, joystick, books etc. £260 ono. Tel Tamworth 63900.

**ATARI 520STFM** 28 games, 3 joysticks, trackball, utilities, 40 blank disks, boxed as new. £300.00. Tel Milton Keynes 0908 618937.

## Express 33 Classifieds form

Name .....

Address .....

Tel .....


One space equals one word. All adverts must be 20 words or less.

### Please note:

- 1 Sorry, no trade ads. All classifieds must be from private individuals
- 2 All entries should be accompanied by £5 payment
- 3 *New Computer Express* will not accept responsibility for any minor typographical errors which do not materially affect the meaning of the adverts.
- 4 We cannot vouch for the quality of goods and/or services advertised in this section. All ads are accepted in good faith.
- 5 We reserve the right to amend or even refuse ads at our discretion.
- 6 No pirated software may be sold through these columns. Any readers being offered non-originals should contact us.
- 7 We cannot guarantee that adverts will appear in a specific issue of *New Computer Express*.
- 8 The following declaration must be signed:  
I have read and understood the terms for the inclusion of my ad.

Signed .....

Make cheques and postal orders payable to **FUTURE PUBLISHING LTD**. If paying by credit card, please enter details:

CREDIT CARD NUMBER

EXP. DATE

--	--



# FROM RUSSIA WITH... AN INVOICE

Express has been as concerned as anyone about recent reports that Russian KGB agents have been infiltrating UK Computer Shows. In this exclusive report, a Russian KGB agent whom we shall 'Ivan' has smuggled us this highly secret call from Moscow. It gives a unique insight into the state of the computer in the Soviet Union...

**H**ello, all my friends in England! How I look forward to coming to one of your computer shows again. The flight from Moscow isn't so good; Ilyushin-4s are like Amigas, I think: they always look about to crash. As you know, quality control isn't a strong point of Soviet manufacturing. Car factories are built on top of hills because that's the only way we can be sure to get them started. And it's the same with our Soviet-made computers: Russian keyboards, you need the muscles like a shotputter to touch-type at all. Our Aeroflot hostesses must have trained as copy typists. And our digital watch batteries made in Leningrad only last two hours - maybe it's so you don't know how long you've been queueing for the bread and potatoes.

Which is why Mikhail Gorbachov was so keen on his last visit to meet Alan Sugar and Clive Sinclair - he thought they must have a lot in common.

## System error?

As a Russian, people often ask me what it's like to live in a one-party state with a gagged press ruled over by a virtual dictator and doddering, bumbling old men who are intent only on lining their own pockets. And I tell them: it's actually not bad, and the English don't seem to to mind at all.

We can get most State-of-the-Art technology here. We have all the very latest computers that you have - Jupiter ACEs, Orics, Thors, ZX81s. Rumour has it the CPC and Electron are coming to the next Moscow computer show. Actually I'm joking. We have the MSX too.

My job is going to computer shows and spying. The Soviet Union needs technology and it's my job to come and get it. On my first trip, in my innocence, I obtained some secret details of the computer control systems for your new jet fighters. My KGB boss was so furious! Get me something useful, he said, like Spectrum games, C64 budget cassettes, PD catalogues!

I asked him if he wanted military secrets. 'Sure,' he said, 'I want cheats for *Balance of Power*, *Universal Military Simulator*, *Borodino*, and infinite lives pokes for *F-14 Tomcat* on the PC'.

The reason is our new image. The Evil Empire is out and arms reduction, troops withdrawals, increase in technology etc are in. The soldier boys are coming back from Afghanistan and

China and they need something to do. Though it's taking them a while to cotton on to the fact that in computer shoot-'em-ups you don't have to queue and sign out each bullet.

## Bring down the wall!

Everyone is delighted about *Tetris* going from the USSR Academy of Science to the West. It's brought in so much money for Alexei, the designer, that he now has three pairs of Chinos! I remember the day when he was caught playing it instead of working on plans for a nuclear reactor tower. Poor Alexei! He was hauled up before the Academic Committee with a face as white as a Gorky Park snowdrift. He thought it was off for a trip away and a taste of salt in the air - in Siberia, not on the Black Sea coast. Imagine his surprise when he was commended for it and told his game was being licensed to the decadent capitalist West!

The thing is, Alexei only wrote it as a protest - a sort of bitter satire on wall-building and iron curtains. (He loves Shostakovich and Mussorgsky). But he thought quickly when they asked him what it was about. 'A symbol of, er, perestroika (reconstruction)', he said. And then, under his breath, 'that is, a load of old blocks'. They swallowed it!

## Shopping all over the world

Desktop publishing is really taking off here. The authorities were worried at first about *samizdat* underground counter-revolutionary newsletters organising Solidarity-style campaigns, propagated by supporters of Boris Yeltsin, using Tasword on their Spectrums.

We needn't have worried. By the time anyone has queued for the paper, hacked in to the DTP program to make the alphabet Cyrillic and managed to get a page out of their smuggled budget Citizen printers, the reforms they're calling for have gone through anyway.

Talking of the man in the street, I was interested to hear of your 'home shopping computer terminal' plans. It should revolutionise shopping here, and get rid of all those queues at the Bread Shop and Grocery Store, so it will really bring the USSR into the computer age. I'm on the waiting list for one already and the first will be delivered in June 1996. I hope it isn't the 15th as the plumber is due to come then...■

# NEXT WEEK

## Portable computing

Express names the best buys in laptops

## Computer Art

State of the Art for Art's Sake

## Stunning!

New desktop program for the ST

## PLUS

Another red-hot collection of money-saving vouchers, letters, reviews, features, games... plus more of the A-Z and the very latest in news and comment on the computer scene

# On sale Thursday June 29th



# ORDER YOURS NOW!

Only  
58p!

## Shoot from the Lip... the week's most quotable sayings

"Is Sir Clive Sinclair a man or machine? Or is he a man who aspires towards the condition of a machine?"

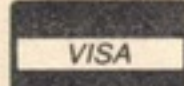
The Times' William Holmes reviewing a Horizon documentary on the computer

wizard who is Britain's best-loved boffin

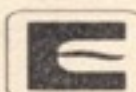
"The Iron Curtain of Churchill's day is the Maginot line to the microchip."

A classic Ronald Reagan soundbite





We Accept EXPRESS VOUCHERS



# TREBLE



# COMPUTING



We Accept EXPRESS VOUCHERS

Access



### ★ NEW ★ POWER PACK PLUS

#### ATARI 520 STFM 1 MEG DRIVE

FIRST BASIC, ORGANISER, FIRST MUSIC, XENON, DOUBLE DRAGON, NEBULUS, ELIMINATOR, OUT-RUN, GAUNTLET II, SUPER HUEY, AFTERBURNER, R-TYPE, PREDATOR, SPACE HANG-ON, BLACK LAMP, STARGLIDER, SPACE HARRIER, BOMB JACK, OVERLANDER, PACMANIA, STAR GOOSE STAR RAY, BOMBUZAL.

+ JOYSTICK + 80 CAP. DISK BOX  
+ 10 x 3 1/2" DS/DD DISKS  
+ MOUSE MAT

**ALL FOR ONLY  
£384.99**

ATARI 520 STFM 1 Meg Drive	£269.99
ATARI 520 STFM 1 Meg Drive + Super Pack	£349.99
* NEW* ATARI 520 STFM 1 Meg Drive + Power Pack	£349.99
ATARI 1040 STFM + Professional or Games Pack	£439.99
ATARI 1040 STFM + Steinberg Pro-12	£439.99
* NEW * MEG 1 ST Inc. Professional Pack	£529.99

ADD £99.99 TO INCLUDE SM124 MONO MONITOR WITH ANY OF ABOVE

AMIGA 500 Inc. Modulator	£359.99
AMIGA 500 Inc. 1/2 RAM Expansion + Dragon's Lair	£489.99
AMIGA 500 + 1084S Med. Res. Colour Monitor	£589.99
AMIGA AIR MILES PACK Inc.	£439.99

## AMIGA NEW ★ SPECIAL PACK

AMIGA 500 WITH MODULATOR WORKBENCH 1.3 AND MANUALS RETURN OF THE JEDI, ELIMINATOR, CUSTODIAN, POWERPLAY, MERCENARY, ZYNAPS, HELLBENT, WAR-LOCK QUEST, 24 PUBLIC DOMAIN SOFTWARE ON 4 DISKS, FANTA JOYSTICK  
+ 80 CAPACITY DISK BOX  
+ 10 x 3 1/2" DS/DD DISKS  
+ MOUSE MAT

**ALL FOR ONLY  
£399.99**

### ACCESSORIES

Amiga A501 RAM Upgrade	£129.99
ST Multiface	£49.95
Disk Organiser for Above	£10.00
Workbench 1.3	£13.50
Joystick/Mouse Extension	£5.50
Disk Drive Cleaner (3.5 or 5.25)	£4.95
Mouse Mat (Soft)	£4.50
ST or Amiga Dust Cover	£6.50
Amiga to Scart Lead	£9.95
ST to Scart Lead	£9.95
Quickshot II Joystick	£8.50
Cheetah 125+ Joystick	£6.95
DCOMJoystick (Fully Microswitched)	£9.95
Competition Pro 5000 (Black)	£11.50
Competition Pro 5000 (Clear)	£12.50
50 x 3.5" Disk Labels	£1.20
80 Capacity 3.5" Disk Box	£8.95
Monitor Covers From	£6.95
Konix Speedking	£10.50
Konix Navigator	£12.25
ST Modulator	£59.95

### GAMES SOFTWARE

#### ST SOFTWARE

Balance of Power 1990	£16.50
Battlehawks 1942	£16.50
Butcher Hill	£13.99
Falcon	£16.50
F.O.F.T.	£20.99
F16 Combat Pilot	£16.50
Kick Off	£13.50
The Kristal	£20.99
Running Man	£13.50
American Ice Hockey	£16.50
Personal Nightmare	£17.50
Populous	£17.50
Hawkeye	£13.99
Voyager	£16.50
Microprose Soccer	£16.50
Battlechess	£16.50
Millenium 2.2	£16.50
Airborne Ranger	£17.99
Deja Vu II	£18.50
Grand Monster Slam	£13.50
RVF 750 Honda	£17.50
Falcon Mission Disk I	£13.50
Blood Money	£16.50
Archipelagos	£16.50
Bio Challenge	£17.99
3D Pool	£13.99
Weird Dreams	£17.99
Leisure Suit Larry II	£17.50
Robocop	£13.50
Soccer Lord	£16.50

#### AMIGA SOFTWARE

Airborne Ranger	£17.99
American Ice Hockey	£16.50
Archipelagos	£16.50
Balance of Power 1990	£16.50
Battlechess	£16.50
Battlehawks	£16.50
Bio Challenge	£17.99
Blood Money	£16.50
Butcher Hill	£13.99
Falcon	£19.50
F.O.F.T.	£20.99
Grand Monster Slam	£16.50
Hawkeye	£13.99
Kick Off	£13.50
Lords of the Rising Sun	£20.99
May Day Squad	£13.50
Millenium 2.2	£16.50
Microprose Soccer	£16.50
Personal Nightmare	£17.50
Populous	£17.50
Robocop	£17.50
Running Man	£13.50
RVF 750 Honda	£17.50
Sorcerer Lord	£16.50
Tech	£13.50
The Kristal	£20.99
3D Pool	£17.99
T.V. Sports Football	£20.99
Voyager	£16.50
Weird Dreams	£17.99

### MONITORS

ATARI SM 124	£109.99
ATARI SC 1224	£279.99
COMMODORE 1084S	£259.99
PHILIPS 8833	£229.99

### DRIVES

CUMANA 1 MEG 3.5" for ST	£99.99
CUMANA 1 MEG 3.5" for Amiga	£94.99
TREBLE H 1 MEG 3.5" For ST	£89.99
TREBLE H 1 MEG 3.5" For Amiga	£89.99
CUMANA 1 MEG 5.25" For ST	£139.99

### PRINTERS

STAR LC10 mono inc Cable	£214.99
STAR LC10 colour inc Cable	£249.99
CITIZEN 120/D inc Cable	£139.99
EPSON LX800	£244.99
STAR LC 24/10 inc Cable	£324.99

### HARD DRIVES

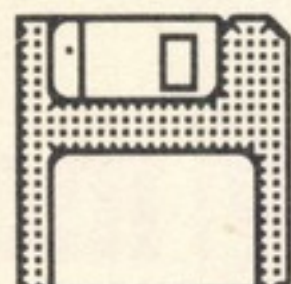
ATARI, SUPRA AND TRIANGLE AVAILABLE.  
PLEASE CALL FOR  
\* BEST PRICES \*

### MUSIC AND SOUND

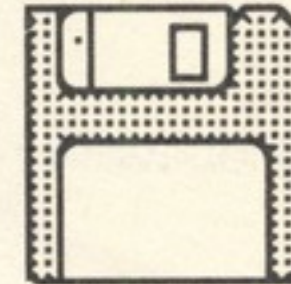
<b>ST</b>	
Steinberg Pro-24	£249.95
C-Lab Creator	£239.99
C-Lab Notator	£359.99
EZ Track Plus	£49.95
Super Conductor	£39.99
Pro Sound Designer	£49.99
ST Replay 4	£64.99

<b>AMIGA</b>	
Aegis Sonix V.2	£44.95
Aegis AudioMaster II	£59.95
Amas	£77.99
Future Sound	£74.99
Perfect Sound	£74.99
Pro Sound Designer Gold	£74.99
Eidersoft Midi Interface	£24.95
Datel Midi Interface	£34.95
Music X	Phone
Dr T's KCS	£159.99
Casio C2-230S Midi Keyboard	£199.99
Casio MT-240 Midi Keyboard	£129.99

### DISKS



**TOP QUALITY  
3 1/2" DS/DD  
GUARANTEED  
BULK DISKS**



10	£8.25
25	£19.95
50	£36.50
100	£70.00
200	£134.00

INCLUDING LABELS

### ART & ANIMATION

<b>ST</b>	
Degas Elite	£19.95
Cyber Paint 2	£54.95
Cyber Studio CAD 3D	£69.95
Spectrum 512	£44.95
Quantum Paint Pro	£32.95

<b>AMIGA</b>	
Lights, Camera, Action	£47.95
Zoetrope	£79.95
Aegis Videoscape 3D	£109.99
Deluxe Paint II (while stocks last)	£29.95
Comic Setter	£44.99
Mini-Gen (Genlock)	£104.99
Moviesetter	£59.95

Coming Soon Deluxe Paint III at £69.95

**IF YOU CAN NOT SEE WHAT YOU WANT, PLEASE CALL AS WE CAN NOT LIST EVERYTHING AVAILABLE**

ATARI PC's from £599, Commodore PC's from £345

A2000's • Laser Printers • Monitor Stands • Business

Software • Educational Software • Printer Ribbons •

Printer Leads • Printer Stands • ST Clocks • Languages •

Replacement Mouse •

B2000 + XT Bridgeboard + A2090 20 Mb Hard Disk + 1084S Monitor .....£1499.00



**CALL FOR BEST PRICES**



All prices include VAT. Please send Cheques/PO made payable to:-

**TREBLE H COMPUTING  
DEPT NCE, CROMER HOUSE,  
CAXTON WAY, STEVENAGE,  
HERTS. SG1 2DF**

**★ CREDIT CARD HOTLINE: 0438 361738 ★  
FAX: 0438 740 794**

If you do send cash please send it Registered.  
All Goods are sent First Class/Registered. Please add £3.00 for outside U.K.  
Large Orders ie. Amigas, ST, Monitors etc are always sent by courier.  
Please add £6.00, if you require Next Day Courier Delivery on other items.

All prices are correct at time of going to Press, and are subject to change without prior notice



# Atari 520STFM POWER PACK

only

**£319\***

## NORTH LONDON

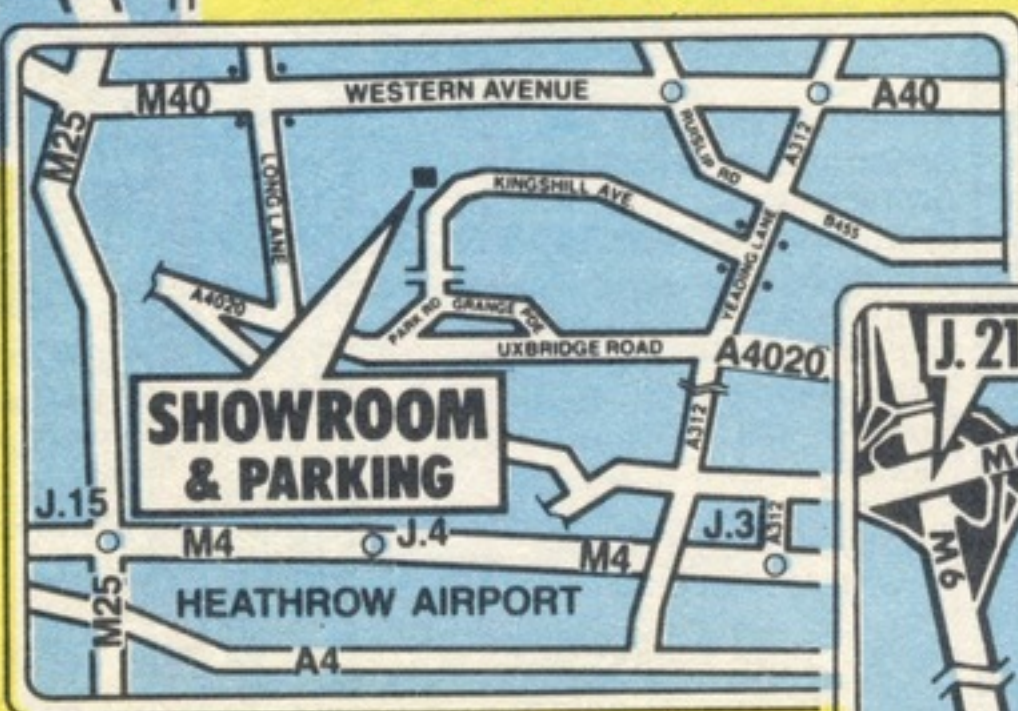


99 Park Street Lane,  
BRICKET WOOD,  
St Albans, Herts AL2 2JA.  
(0727) 72790

## COMPUTER

# EXPRESS

## WEST LONDON



304 Kingshill Ave,  
(off Uxbridge Road)  
HAYES, Middlesex.  
01-841 8744

## MANCHESTER



85 Washway Road (A56),  
(opposite IBM)  
SALE, MANCHESTER M33 1TQ.  
061-962 0780

## SHOWROOM OPENING HOURS:

Monday-Friday 9am-6pm  
Saturday 10am-5pm

## BIRMINGHAM



1046 Coventry Road (A45),  
HAYMILLS, BIRMINGHAM B25 8DP  
021-772 5212

**ATARI 520STFM**  
with 1 Megabyte Drive and  
New POWER PACK of software.

worth over £550 worth at rec. retail price,  
with Atari BASIC and CX40 Joystick.

including Afterburner, Black Lamp, Bomb Jack, Bombuzal, Double Dragon, Eliminator, Gauntlet II, Nebulus, Outrun, Overlander, Pacmania, Predator, R-Type, Space Harrier, Star Goose, Starglider, StarRay, Super Hang-on, Super Huey, Xenon. Plus Business Software - Organiser, Hisoft First Basic, and First Music.

Only **£319.00\***

(£374.33 including VAT and next day delivery.)

**Plus many more bargains....**

### ATARI 520STFM

With 1 Megabyte Drive & SUPER PACK of software. Worth over £450 worth at normal retail price. Including Organiser Business Software, Chopper X, Ranarama, Starquake, Genesis, Black Lamp, Thrust, Test Drive, Buggy Boy, Quadralien, Xenon, Wizball, Seconds Out, Zynaps, Marble Madness, Beyond Ice Palace, Thundercats, Summer Olympiad, Arkanoïd II, Eddie Edwards, Ikari Warriors.  
Special Price..... £279.00\*  
(£328.25 including VAT and next day delivery.)

### ATARI STARTER KIT

Exclusive to Computer Express. Contains ST OWNER'S SECOND MANUAL, 5 DISKS OF PUBLIC DOMAIN SOFTWARE and DELUXE MOUSE MAT ..... £10.00\*

### EXPLORER PACK

Atari 520STFM with 1Mb Built-in Disk Drive, Mouse, Ranarama, Tutorials, Atari ST BASIC.  
Special Low Price..... £235.00\*

### PROFESSIONAL PACK 1040

Atari 1040STFM with Microsoft Write, Superbase Personal, VIP Professional and Atari BASIC.  
Special Low Price..... £389.00

### ATARI HARDWARE

Atari SM124 12" High Res Mono Monitor ..... £119.00  
Atari SC1224 12" Med Res Colour Monitor ..... £339.00  
Cumana 1Mb Double sided 3.5" Disk Drive ..... £90.00  
Philips 8833 Med Res Colour Monitor - Excellent Buy ..... £249.00  
Supra Drive 30Mb External Hard Disk - Auto Boot! ..... £478.00  
Atari SLM804 Laser Printer 8 pages/min 300dpi ..... £1045.00  
Supra 2400 Modem V21/V22/V22bis ..... £159.00  
Pace Linnet Modem V21/V23 with cables ..... £99.00

### ATARI MEGA ST

With 1Mb Drive, Mouse and Professional Pack Software  
MEGA 1 - 1Mb RAM ..... £499.00  
MEGA 2 - 2Mb RAM ..... £799.00  
MEGA 4 - 4Mb RAM ..... £1099.00

### ATARI PCs

The masters of the home computer also make popular IBM compatible PCs. The AT compatible 80286 based machine is a real winner at such a low price. All machines have at least 3 internal expansion slots. Choice of monitor.  
PC3-HD 30Mb Hard Disk, Mono EGA Monitor ..... £599  
PC4-HD 286, 60Mb Hard Disk, Mono EGA Monitor ..... £1,399  
PC5-HD 386, 60Mb Hard Disk, Mono EGA Monitor ..... £1,999  
PC5-HD 386, 60Mb Hard Disk, Colour VGA Monitor ..... £2,599

### COMMODORE AMIGA 500

With free Modulator ..... £319.00  
With free 7 Pack Games Software ..... £345.00

### AMIGA HARDWARE

Amiga Mini Genlock ..... £99.00  
Amiga External Drive 3.5" ..... £90.00  
Amiga 500 External 20Mb Hard Disk with SCSI ..... £499.00  
Large Range of Popular Atari and Amiga Software Available.

### SCHNEIDER PERSONAL COMPUTER

A Quality PC at an unbelievably low price! The Schneider Euro PC is the ideal first time user's machine. Full size keyboard, choice of mono or colour monitor, twin floppy drives, with plenty of room for external expansion. Full 12 months warranty.  
Euro PC 12" Mono ..... £399  
Euro PC 14" Colour ..... £549  
Schneider AT Single Drive Mono ..... £899  
Single Drive 14" EGA Colour ..... £1149  
Schneider AT 20Mb HD Mono ..... £1249  
AT 20Mb HD 14" EGA Colour ..... £1399

\*Prices exclude VAT and delivery.  
All prices/specs subject to change.

**We're there because you're there.**

CALL FOR FULL PRICE LIST  
EXPORT AND TRADE ENQUIRIES WELCOME  
TELEPHONE AND MAIL ORDERS WELCOME



CALL **0727 37451**



OVER 2,800 ITEMS AVAILABLE  
ALL GOODS GUARANTEED  
CREDIT CARDS NOT DEBITED UNTIL DESPATCH